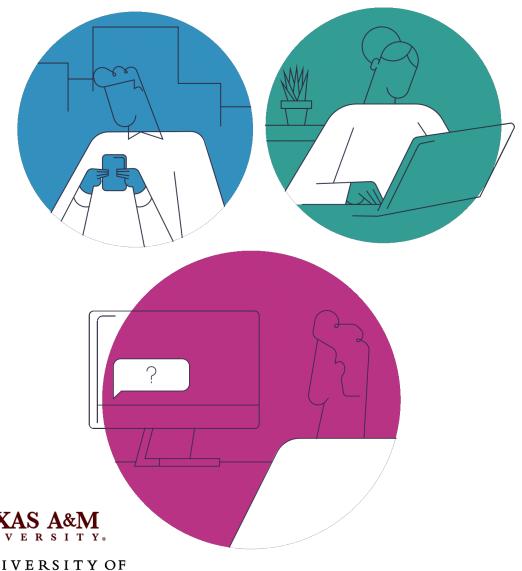


GOODLUCK: A Deeper Dive

Julie Ma, Dhruva Chakravorty Lissie Fein, Alan Sussman, Karen Tomko















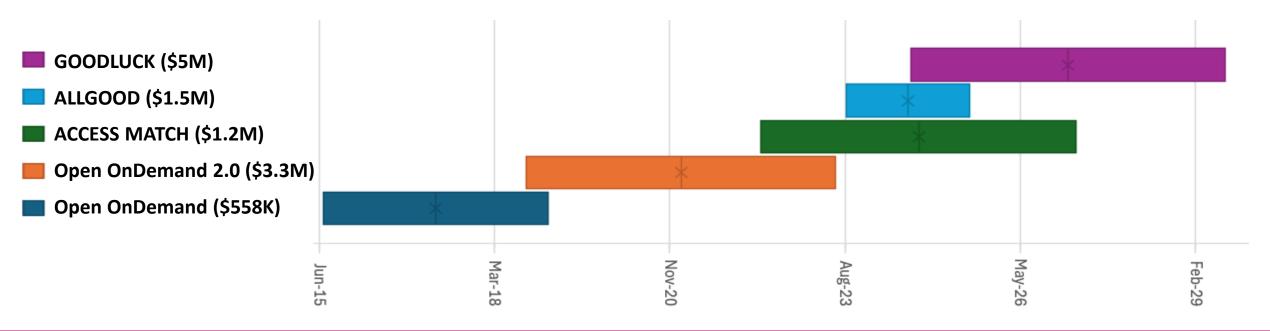




NSF Funding History







COLLABORATORS













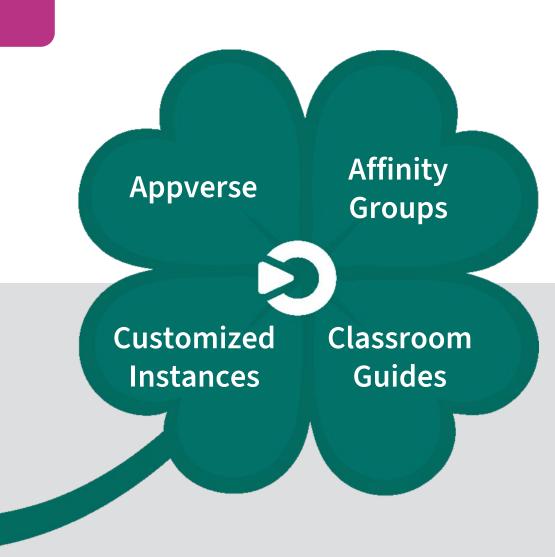
openondemand.org/history

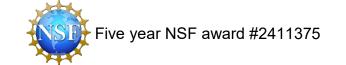


GOODLUCK

Growing Open OnDemand: Leveraging Unified Community Knowledge

Domain solutions for the sciences, engineering & education















Project Summary

Growing Open OnDemand: Leveraging Unified Community Knowledge (GOODLUCK)

Provide tools and processes for researchers to enhance Open OnDemand use, analysis, and result sharing.

Intellectual Merit

- Service providers will provide scalable and accessible resources with a low barrier to entry
- Researchers, industry professionals, and students will tackle diverse science and engineering challenges
- Open OnDemand enables new opportunities, and accelerates scientific innovation

Broader Impacts

- Broader resource adoption across science domains and underrepresented communities
- Improved collaboration/consistency among researchers conducting "team science"
- Engagement with students (future clients of service providers)



Initial Science Drivers

Proposed Focus Areas for Year 1



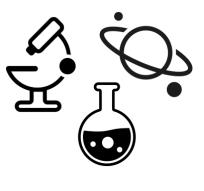
Cryo-EM (MGHPCC POC)



Alloy Discovery (Texas A&M – POC)



Art Design (OSC POC)





Rotorcraft Development (UMD POC)

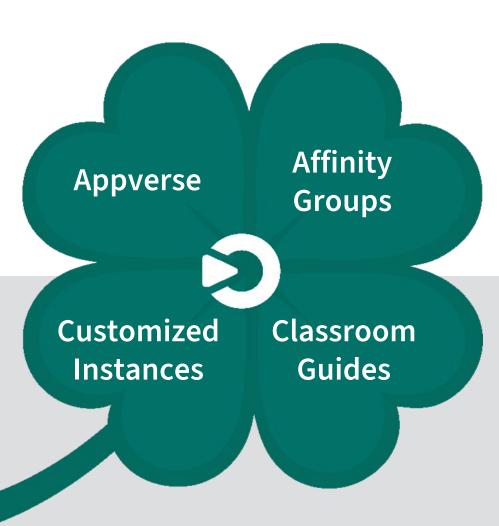


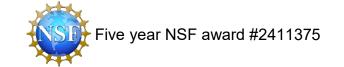
GOODLUCK Community

Growing Open OnDemand: Leveraging Unified Community Knowledge

Community input is key to our efforts!

Shamrock highlights strategies and mechanisms to facilitate your participation















Leadership Team



Alan Chalker

Ohio Supercomputer Center

Project direction & oversight



Dhruva Chakravorty

Texas A&M University



Julie Ma

Massachusetts
Green High
Performance
Computing
Center



Alan Sussman

University of Maryland



Karen Tomko

Ohio Supercomputer Center

Customization

Appverse

Community

Customized Instances

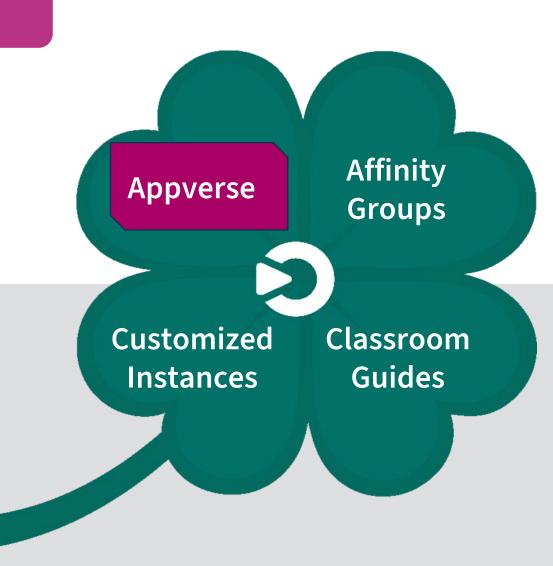
Classroom

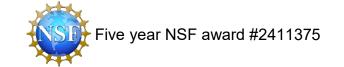


GOODLUCK

Growing Open OnDemand: Leveraging Unified Community Knowledge

Domain solutions for the sciences, engineering & education















The OOD Appverse

Apps for scientific applications by developers, and researchers

KEY FEATURES

- Build and share apps for your OOD instance (GitHub)
- Central repository for apps
- Apps can be for research or IT functions
- Tiered structure validated and sponsored apps
- Curation process maintenance, updates, and training
- Al app integration
- Affinity Groups will publicize the Appverse







IQmol

System Installed App









Sessions to watch out for

3/20 Thursday at 1130 AM

"Using a Passenger App for Displaying GPU Node Configuration and Resource Availability"

Michael Dickens

https://cfp.openondemand.org/2025/talk/M3EWSU/



"Drona Workflow Engine"

Marinus Pennings

https://cfp.openondemand.org/2025/talk/8XZYTX/



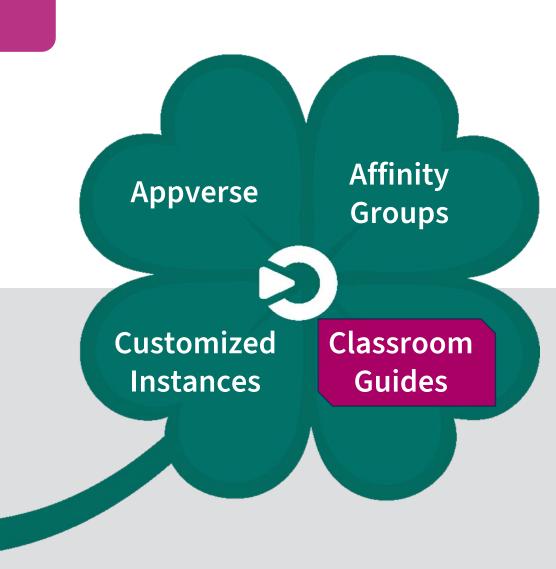


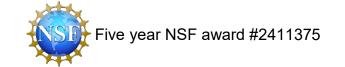


GOODLUCK

Growing Open OnDemand: Leveraging Unified Community Knowledge

Domain solutions for the sciences, engineering & education















Classroom Guides

Resources for supporting classroom use of shared CI

Requirements for classroom

- Intuitive user interface
- Access from anywhere
- Responsiveness
- Scalability
- Repeatability

OSC's Approach

- OOD customizations
- Kubernetes managed resources
- Processes to customize allocation/project setup
- Processes and tools for creating isolated software environments
- Support for file sharing and homework submission



OSC's class.osc.edu



Classroom Guides

Challenge: Generalizing OSC's approach for broader adoption

General OOD configuration

App customizations

- BC apps for Jupyter, Rstudio
- Entries in cluster.d/cluster.yml

Kubernetes managed resources

- Jupyter and Rstudio sessions
- Supports interactive use during class
- Resources based on configuration in cluster.yml

OSC specific processes and tools

Processes to customize allocation/project setup

- Classroom intake process to gather input for customizations
- Self service account creation for students

Processes and tools for creating isolated software environments

- Documentation and scripts to setup custom environments
- Managing paths to isolate environments in student and instructor accounts

Support for file sharing and homework submission

- Instructor scripts for creating submission directory
- Student scripts for copying homework



Classroom Guides

More details:

"Managing the software environment for a

classroom deployment of OOD"

Wednesday at 10:00am

Belfer Case Study Room



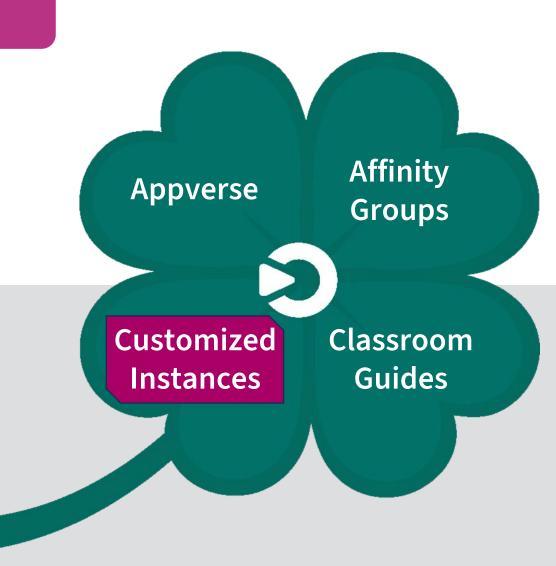
https://cfp.openondemand.org/2025/talk/TGUZM9/

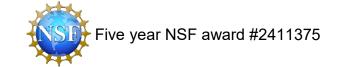


GOODLUCK

Growing Open OnDemand: Leveraging Unified Community Knowledge

Domain solutions for the sciences, engineering & education















Customized Instances

Challenge: Enabling groups of users to create customized instances of OOD

For groups of researchers and for classroom use

Within a group of researchers (e.g., a faculty member's research group)

- Share applications, workflows, etc. (from Appverse or developed locally) though your OOD instance
- Without sysadmin intervention or privileges

For a class, workshop, tutorial, hackathon, etc.

• Enable a faculty member, or a presenter, to share applications with a set of students or attendees

Initial effort is to develop and disseminate Project Manager functionality within OOD

- Focus on one application partner, test new functionality within a moderate sized research group
- Both simulation and data analysis tools developed and used within the group



Customized Instances

Application focus areas include

- Cryogenic electron microscopy (MGHPCC) viral action mechanisms
- Materials science alloy discovery and design (TAMU)
- Art design using generative AI (OSU)
- Rotorcraft design drone design via CFD and structural dynamics (UMD)
- Talk to us if you are interested in testing this functionality in the not-too-distant future

Long term area goals

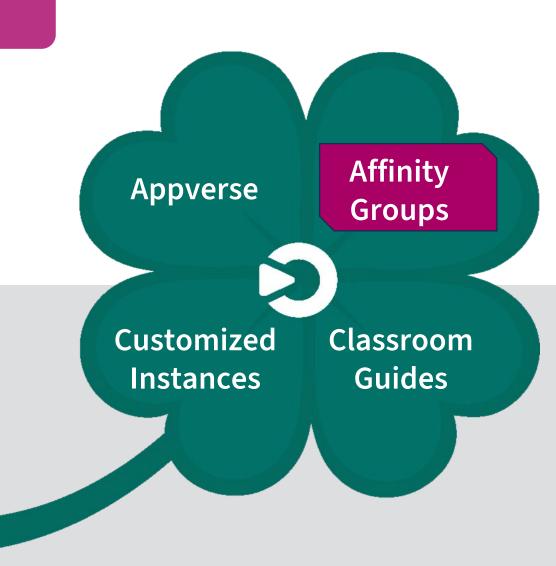
• Integrated sets of tools, documentation, and training materials that researchers and educators can select from and use as templates to create an OOD environment tailored to their needs

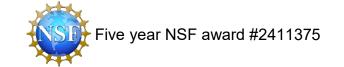


GOODLUCK

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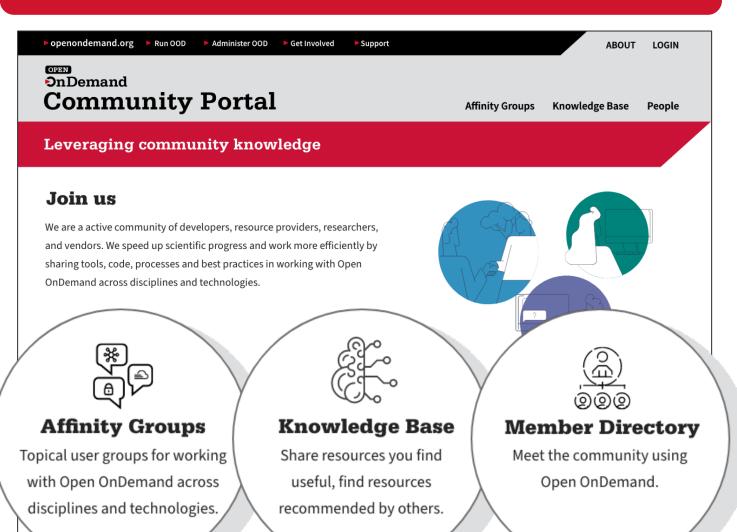








Community Portal





Newly launched—features will be rolling out:

- New Affinity Groups
- Events, Announcements, & Community Badges
- Integrating the Appverse, Customized Instances, and Classroom content

ondemand.connectci.org





Affinity Groups

Affinity Groups are a place to connect with the community on topics related to Open OnDemand.

KEY FEATURES

- Links to Communication channels (Discourse, GitHub, etc.)
- Central repository for documentation, code samples, tutorials, and other resources
- Optional member email lists and place for recommended infrastructure
- Announcements, events, and trainings

Flexible usage: Groups can be short or long term, and they can be primarily repositories or include active discussion.

Remote Instrumentation

CryoSparc OOD Application

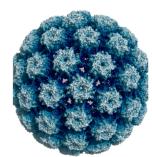
Community

Reverse proxy response body substitution?

Shania France UMass Amherst

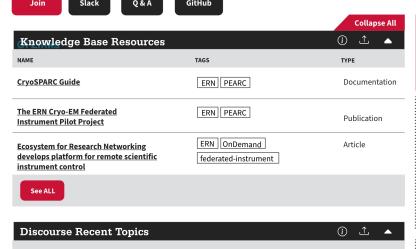
This affinity group serves as a central hub for those using OnDemand with Remote Instrumentation. Joining this group will keep you updated with news, announcements, and events related to Remote Instrumentation with Open OnDemand.

Cryo-electron microscopy (cryo-EM) is rapidly becoming a key tool for studying the molecular architecture of cells, viruses, and protein assemblies. Advances in microscope design, image processing, and automation are making cryo-EM faster, more precise, and capable of resolving a wider range of biological structures. Combined with techniques like X-ray crystallography and NMR, cryo-EM is now enabling atomic-resolution models of complex molecular assemblies.

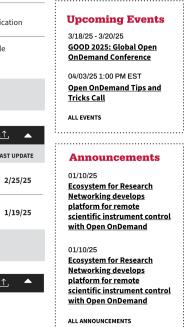


Member Email List

cryoem@lists.connectci.org



Lawrence Livermore





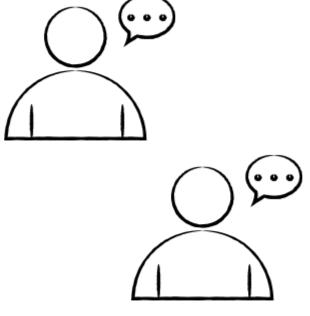
Each Affinity Group needs two or more Coordinators.

Time commitment is minimal and includes:

- Moderating knowledge base content
- Communication via slack, email, discourse, or zoom
- Attending best practices meetings during office hours, initially monthly, and then quarterly.







Affinity Group Coordinators

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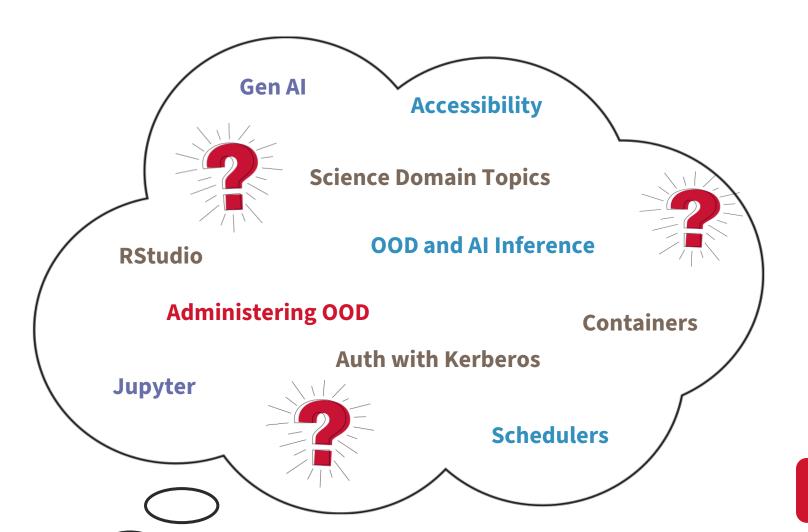






Affinity Groups Topics

Add your ideas for groups to Menti







Affinity Group Next Steps

Goal: Choose the first set of affinity groups to ensure a GOOD start!

1. Poll Interest

Tomorrow morning we will release a google doc with the affinity group ideas from Menti. People can indicate interest in membership or being a coordinator. (this will NOT be a firm commitment)

2. Create New Groups

We will create affinity groups for ideas that have at least two coordinators and five interested people.



Login to the Portal

Login

Create an account or use a Campus Champions, CCMNet, or ACCESS-Cl account



Create your Profile

Add your skills and interests

Set your Password

For new accounts, use the **Edit Community Persona** button to set your password



Vote for Affinity Groups



Lots of great ideas, but we need your input to go forward.

Go to the Google Sheet with Affinity Group ideas and mark which ones you are interested in. Add your name if you could be a coordinator.

New Community Portal where Affinity Groups will live

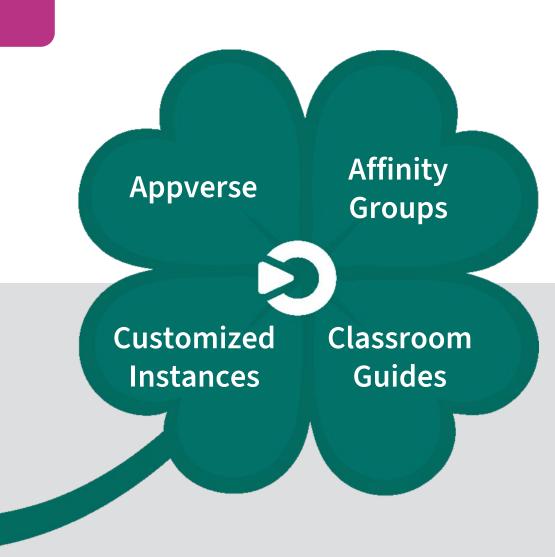


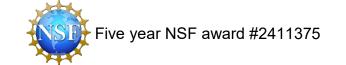


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GOODLUCK Year 1 Goals

- Project Management Framework
- Community Meeting
- Community Management Portal Pilot
- Appverse Pilot
- Classroom Guide Framework
- Affinity Groups Pilot
- Customized Instance Pilot





Questions

Your input and feedback is requested!

Appverse (Dhruva)

- What should the app verification process consider?
- How will apps on the Appverse be supported?
- What mechanisms will support different fields of science?

Customized Instances (Alan)

- What are your pain points in deploying applications through OOD?
- What types of applications would you like to share with other users?



Questions

Classroom (Karen)

- What are your pain points with respect to supporting classroom use?
- Have you created any customs apps for classroom use?
- What are the emerging needs in classroom support?

Affinity Groups (Lissie)

- How can Affinity Groups help your work?
- What Affinity Group features will be helpful for you?
- Are there Affinity Groups you would coordinate?



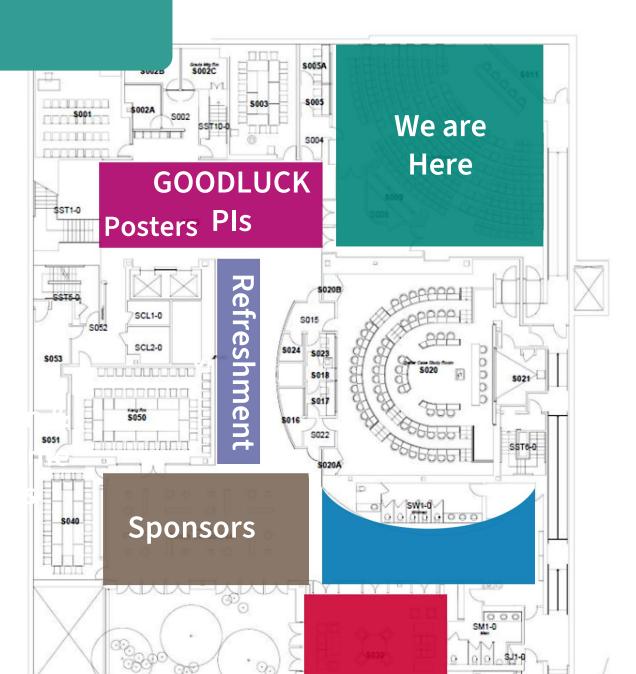
Idea Marketplace

Enjoy Refreshments

Discuss ideas with the GOODLUCK Team

Visit the Poster Gallery

Meet our Sponsors





Reminder



Wednesday - Fenway Social

6-9:30 pm

Backstage tour

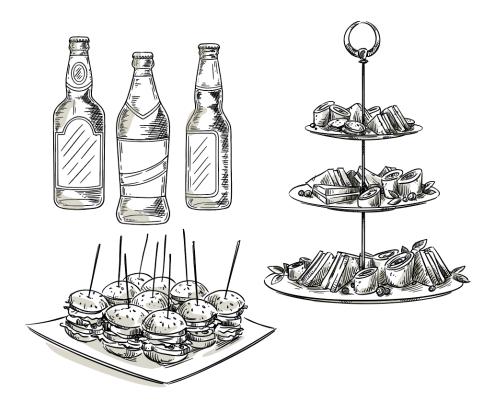
Ballpark-themed food and beverages

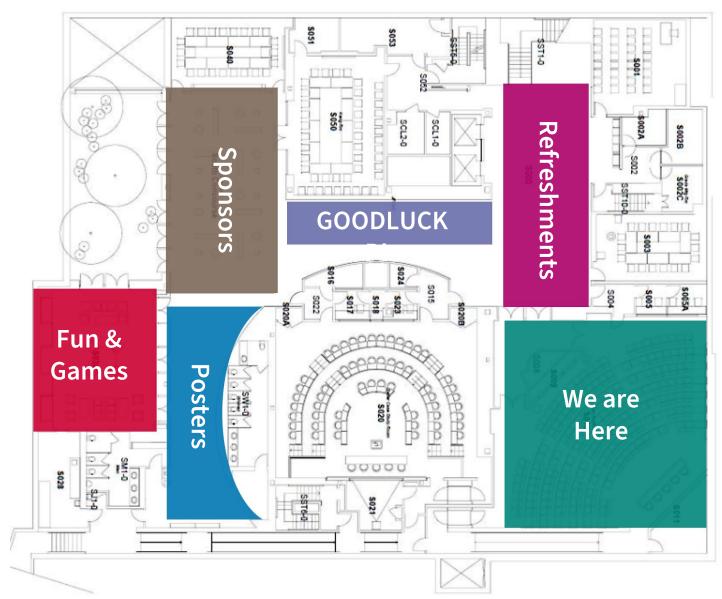
Buses leave from CGIS (here) at 6pm sharp and return starting at 8:45pm



Thank You!

See you out there!











Idea Marketplace

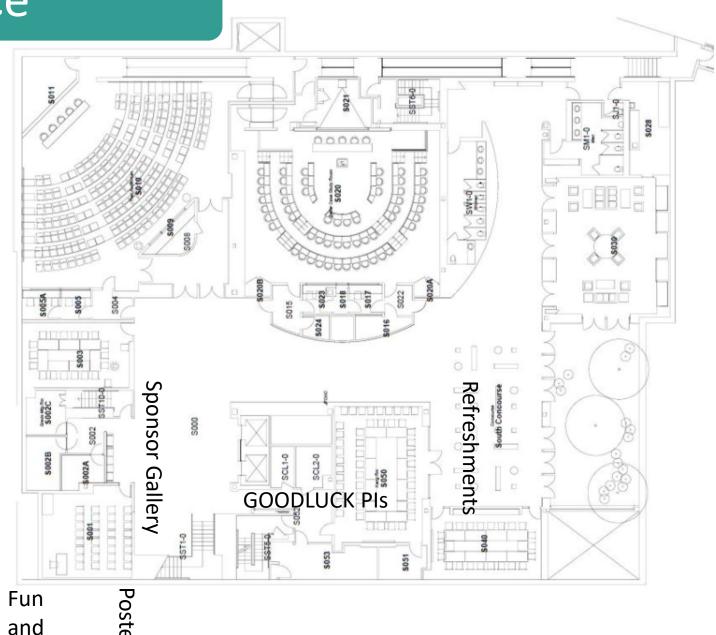
Grab a Beverage and Some Delicious Nibbles

Provide Input/Feedback to the GOODLUCK Team

Play Affinity Group Roulette

Check out our Poster Gallery

Meet our Sponsors

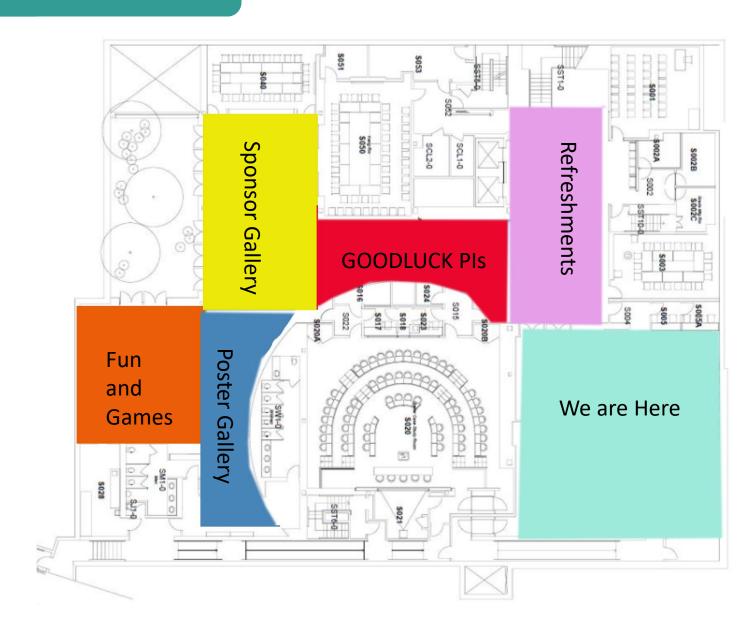




Thank You!

See You Out There!







Run Open OnDemand

Access your organization's supercomputers through the web to compute from anywhere, on any device.







Zero installation

Run Open OnDemand entirely in your browser. No client software installation required.

Easy to use

Start computing immediately.
A simple interface makes Open
OnDemand easy to learn and use.

Compatible with any device

Launch on any device with a browser—even a mobile phone or tablet.



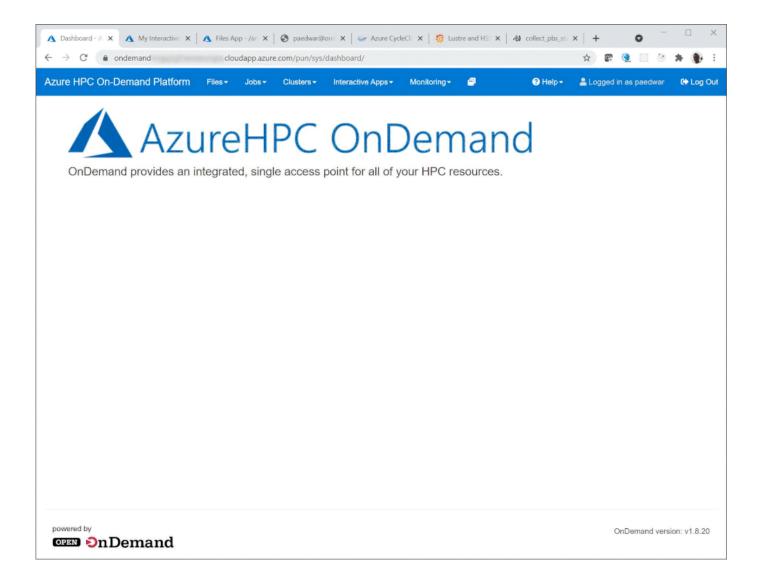


Any Device, Anywhere



openondemand.org/anydevice

Commercial Cloud









openondemand.org/aws





openondemand.org/azure





openondemand.org/gcp



NSF ACCESS











Hive

Rockfish

ACES FASTER LAUNCH

Anvil

Bridges-2 & Neocortex









Delta

Ookami

Expanse



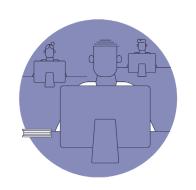
KyRIC

openondemand.org/access

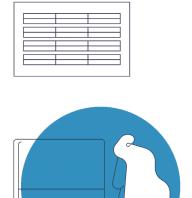


Install Open OnDemand

Administer remote web access to your supercomputers to transform the way users work and learn.







Low barrier to entry

Empower users of all skill levels by offering an alternative to command-line interface.

Free and open source

Install Open OnDemand for free, and gather knowledge from our large open-source community.

Configurable and flexible

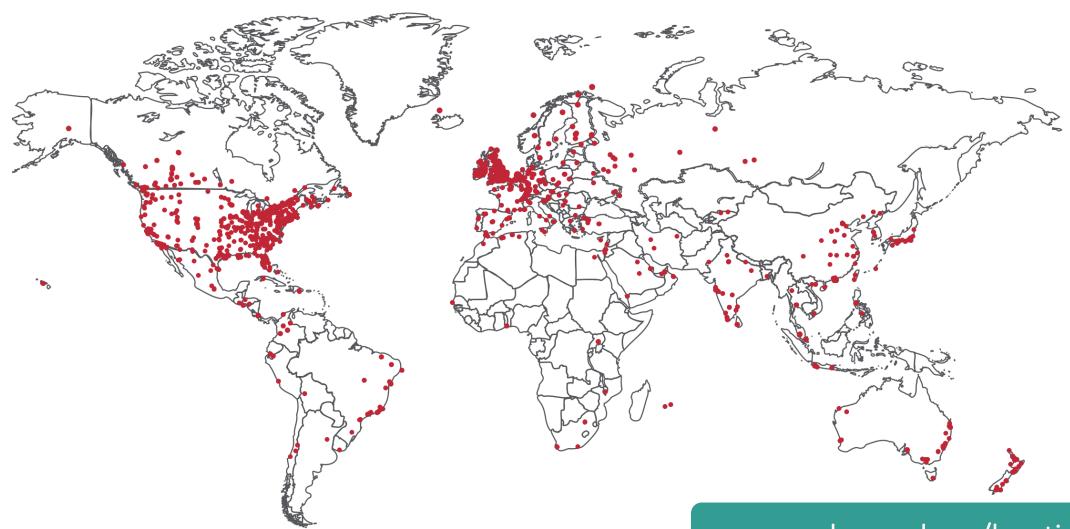
Create and deploy your own applications to meet your users' unique needs.





Deployed Worldwide

100+ Countries | 2,100+ Organizations





openondemand.org/locations





Example Deployments

Nonprofit / Research centers













International academia













Government









Minority-serving institutions













Private academia





Yale.







Public academia













Industry























Enabled Utilities & Apps



Abagus



AMDuProf



ANSYS





BEAST 2



Blender





Coot

DeepLabCut

Eclipse



Firefox

Galaxy

GaussView



Grace



GSEA



IDL



LS-DYNA

Lumerical

Maestro



Mathematica



MATLAB



Maya



Meshroom



MRIcron

NetLogo

Nsight Eclipse





ParaView





PyCharm



QGIS

RELION

RELION



RStudio









PSPP









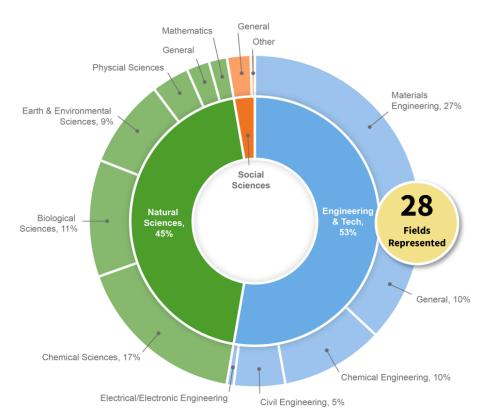




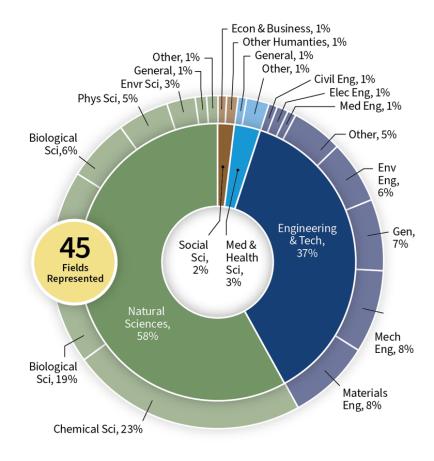




Impact at OSC



2017



2023





Support Model





The Get Help category features user and admin questions and answers.

<u>openondemand.org/discourse</u>



Slack Workspace

Communicate and collaborate with the project team and community members. openondemand.org/slack



GitHub Documentation

Outlines installation steps, app guidelines, release notes, and more.

<u>openondemand.org/docs</u>



Constant Contact Newsletter

Subscribe to get notices about upcoming events, new releases and user stories.

openondemand.org/newsletter



Community Events





Hosted by the larger Open OnDemand community, tips and tricks webinars share best practices for setting up and using Open OnDemand. They take place on the first Thursday of every month at 1 p.m. ET in the US



Open office hours

Hosted by our development team, Zoom open office hours are the perfect opportunity to ask questions or make a suggestion. They are held on the second Tuesday of every month from 11:15 a.m. to 12:45 p.m. ET in the US



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Asia Pacific-timed versions of these calls will be starting in 2H2025



Pilot Support Subscription

- Access to:
 - Priority support channels
 - Staff expertise
- Utilize best practices
- Contributes sustainable, ongoing funding for Open OnDemand
- Pilot will run through 2025
 - Additional services will be introduced as we learn from client experience



Benefits

- Priority Discourse channel
- Priority triage of Github issues
- Scheduled one-on-one office hours
- Invitations to special events at major conferences
- Participation in advisory working groups



openondemand.org/subscribe

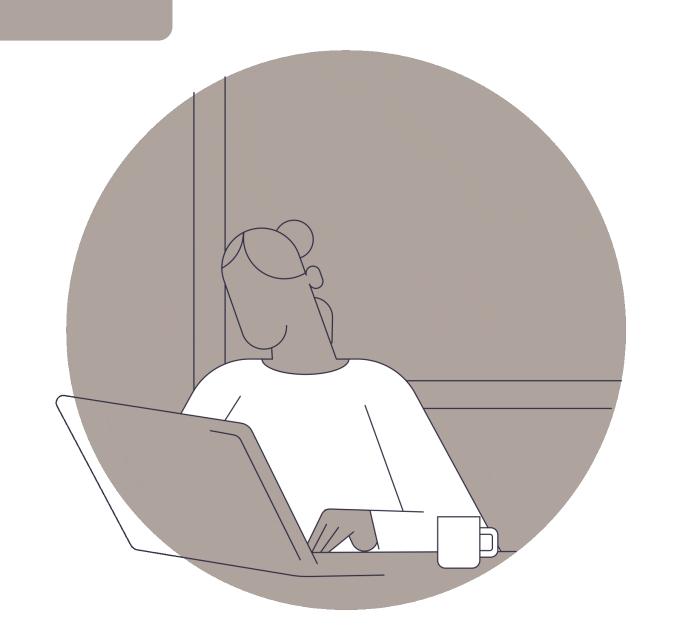


Agenda

About Open OnDemand

Technical Update/ Getting Involved

Discussion





Technical Update/Getting Involved

- 4.0 is available!
- Building a vibrant open source ecosystem
 - New role: Developer relations program manager
 - GitHub ondemand issues review
 - Increased engagement with community





4.0 Notable Features

- Global batch connect items in ondemand.d files defining queues or node times in one place
- **Dismissible and required announcements** configurable alerts
- System status page cluster status and details
- File editor refreshed community driven UI improvements





4.0 Breaking Changes

NavConfig file is being removed – simpler configuration

Initializers need updating – Rails prompted change

Whitelist and blacklists are being replaced – replaced by inclusive allowlist and blocklist configurations

See "Deprecations" in 3.0 release notes for more information





4.0 Community Contributions















Genentech











Development Planning



Identify

Issues are reported in Discourse or GitHub



Prioritize

Issues are analyzed and prioritized



Execute

Developers from the community or core team pick up issues



Release

Changes are reviewed and included in the next release





Issue Prioritizing

Issues are prioritized by user impact, development effort needed, and alignment with other enhancements in the release.



Security Issue

Patches are developed quickly for high priority issues.



Bug

Unexpected or unintended behaviors are the next priority and addressed according to importance.



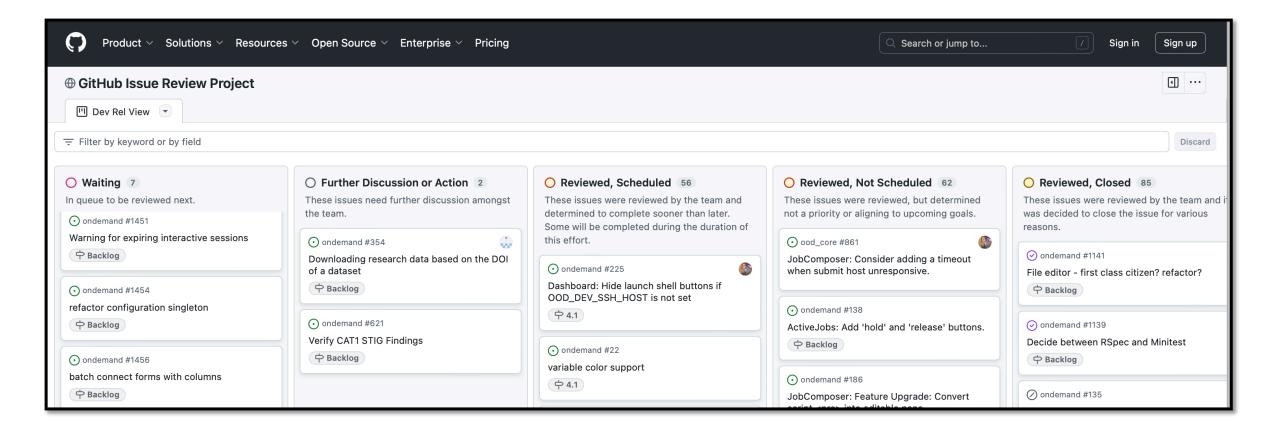
New Features

We are continually enhancing our infrastructure, integrations, and ux based on the needs of our community.





Github Issue Tracking

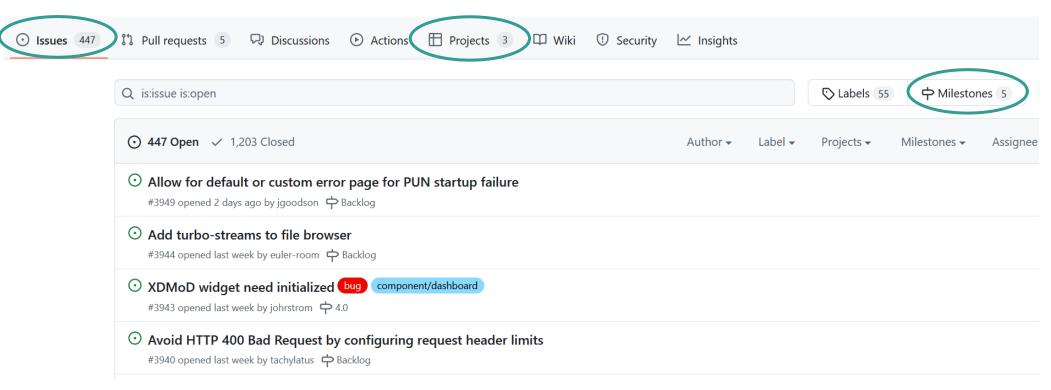






Live Action View

GitHub Main Repository: ondemand





GOOD Conference



Registration is Open



The Inaugural Conference for the Global Open OnDemand (GOOD) Community

Explore, Share and Shape the Future of Open OnDemand

Attend live keynotes, talks, BoFs and tutorials, and get to know fellow members of the Open OnDemand Community

Harvard University | March 17-20, 2025

- Contributor "Jam" on March 17
- Talks, BoFs, Social Events
 March 18-20
- Celebrate Contributor Jam achievements on March 20





Questions/Comments

Post on the Menti page, we will respond either now or later!

Goto

www.menti.com

Enter the code

7470 2584



Or use QR code



Thank You!

Please take a moment to sign up for our mailing list for future updates!

Julie Ma

jma@openondemand.org

Emily Moffat Sadeghi emoffat@openondemand.org





HPCwire Award

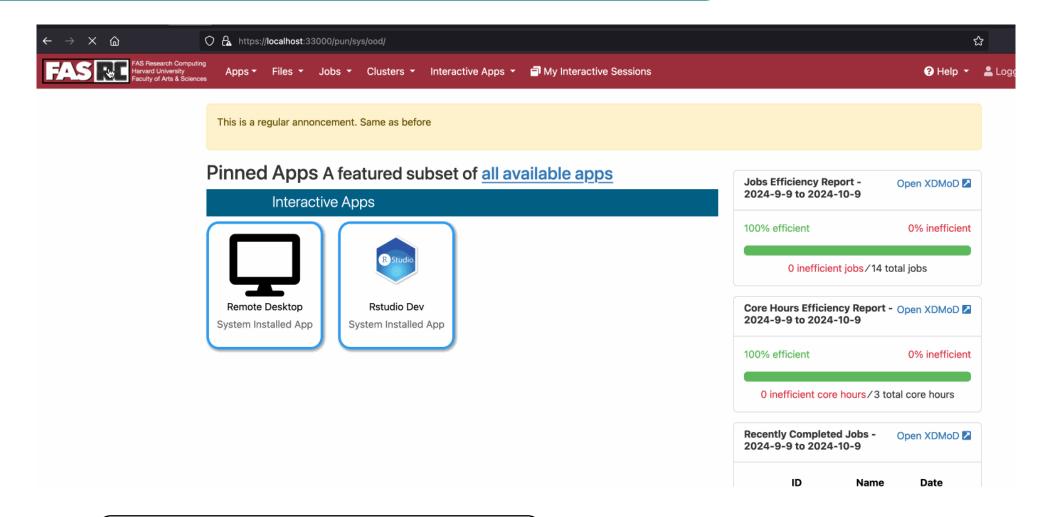


THANK YOU to all who use **OpenOnDemand** and to all who voted in the **HPCwire Readers'** Choice!





Dismissible and Required Alerts





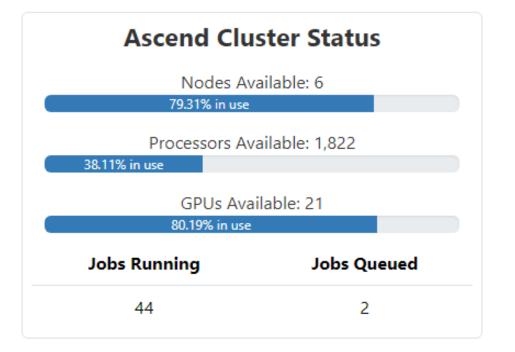
Open to how this can be improved or expanded

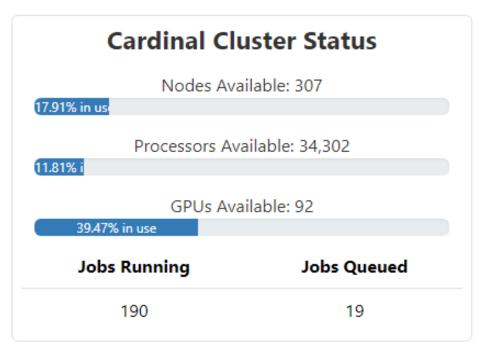
openondemand.org/releasenotes



System Status Page



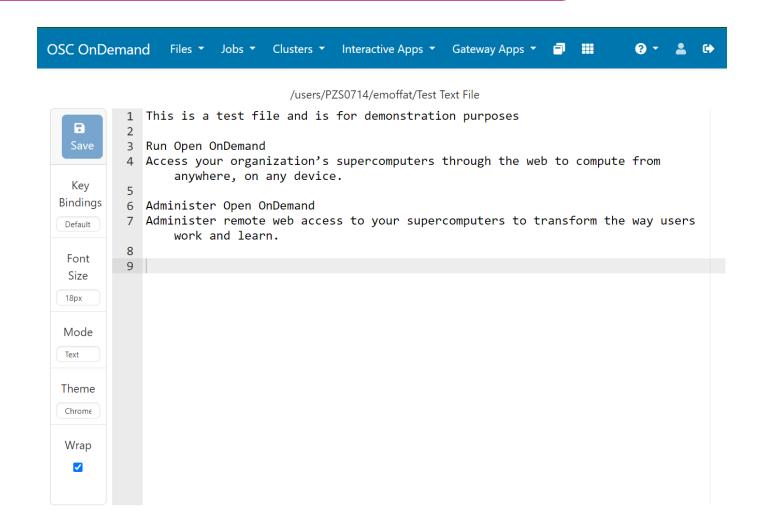








File Editor







Branded Merchandise



OpenOnDemand - 20 oz Water Bottle \$19.99



OpenOnDemand - Eco-Friendly Cotton Tote \$20.49



OpenOnDemand - Men's Premium T-Shirt \$26.99



OpenOnDemand - Women's Premium T-Shirt \$26.99



OpenOnDemand - Adjustable Apron \$21.49



OpenOnDemand - Unisex Baseball T Shirt \$29.49



OpenOnDemand - Camper Mug \$18.99



OpenOnDemand - Tote Bag \$16.99



OpenOnDemand - Women's T-Shirt \$22.99



D.

OpenOnDemand - Men's Hoodie



Community Collaborations

























Any Challenge, Every Solution



