

Breaking Down HPC Barriers

Challenge

North Dakota State University needed to help users maintain access to high performance computing resources during the COVID-19 pandemic.

Approach

The Center for Computationally Assisted Science and Technology adopted the Open OnDemand portal for remote research and classroom use.

Solution

Open OnDemand has lowered barriers to access, enhanced educational opportunities and offered popular new features for HPC users.

Any Device, Anywhere

"I deployed Open OnDemand from home during COVID and went straight into production. It turned out people really liked it. I don't think we could ever go back."

— Nick Dusek, North Dakota State University



Open OnDemand lowers barriers to HPC access for North Dakota scholars

The Center for Computationally Assisted Science and Technology (CCAST) at the North Dakota State University (NDSU) provides high performance computing (HPC) resources to NDSU and various other institutions within North Dakota. With more than 12,000 CPU cores and 70 GPUs, CCAST is the largest academic supercomputing facility in the state.

Managing and ensuring access for users is a top priority for CCAST. In 2019, when the global COVID-19 pandemic started to disrupt in-person activities, Research Facilitator Nick Dusek introduced Open OnDemand, a remote HPC platform developed by the Ohio Supercomputer Center (OSC), to the CCAST community.

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“When we all got sent home in March 2020, everything was in flux and the tolerance for failure was high,” Dusek said. “I deployed Open OnDemand from home during COVID and went straight into production. It turned out people really liked it. I don’t think we could ever go back.”

Open OnDemand has since become CCAST’s front door for HPC access. Providing a unifying framework while remaining highly customizable, Open OnDemand effectively lowers barriers to access, enhances educational opportunities and allows CCAST to increase the features it offers, Dusek said.

Previously, CCAST had no ability to provide graphical user interfaces to its clients, but Open OnDemand has allowed Dusek and his team to implement various popular and requested interactive apps, such as RStudio and Jupyter Notebook, into the environment with minimal effort. This change has not only impacted researchers but has allowed educators to more easily integrate supercomputing into the classroom, Dusek said.

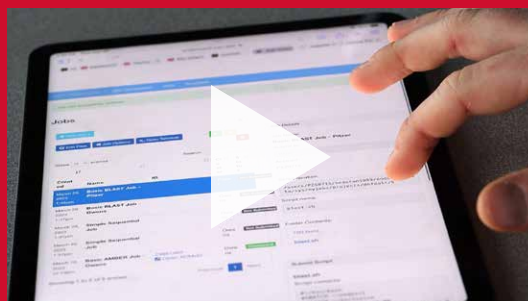
Open OnDemand has also helped CCAST simplify some of the initial challenges that new users face when attempting to access HPC resources.

“In the past, after creating an account new users would typically have to email us asking for help,” Dusek said. “Since implementing Open OnDemand I have started to run into people on campus who I have never had to interact with who have been using our resources. If I have not had to interact with them, that means their onboarding went smoothly.”

openondemand.org/ndsu

Try Open OnDemand

It is simple to set up a live demo of Open OnDemand for evaluation. Just follow the directions at **openondemand.org/demo**. Once the steps are complete, explore Open OnDemand’s documentation and core applications—Files, Editor and Job Composer—for more information.



Compute Seamlessly

Accessible via any browser on any device with an internet connection, Open OnDemand requires zero client-side software installation. See it compute in some unusual places.

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