OPEN OnDemand

openondemand.org

Advancing European HPC

Challenge

CSC – IT Center for Science needed to allow clients of all skill levels to easily use its new high performance computing clusters.

Approach

CSC integrated OSC's Open OnDemand into the environments of Puhti, Mahti and LUMI, which is Europe's fastest supercomputer.

Solution

Open OnDemand has provided ease of access for new users with no Linux experience, as well as for participants in academic courses.

Any Device, Anywhere

"We receive very good support from OSC on improving Open OnDemand and adding features. We have a real ability to affect the solutions, which means we can adopt it with greater confidence and do long-term planning."

— *Sebastian von Alfthan, CSC - IT Center for Science*

Europe's most powerful supercomputer integrates Open OnDemand

CSC - IT Center for Science not only oversees two national supercomputers that fuel research and innovation in its home country of Finland, but also manages the LUMI supercomputer, which became Europe's most powerful supercomputer in 2022.

In 2021, CSC began integrating the Ohio Supercomputer Center's (OSC) Open OnDemand portal into its high performance computing environments, first with Finland's Puhti supercomputer, which supports research and education needs for a wide range of science domains. CSC's use of Open OnDemand expanded to the Mahti supercomputer in 2023, and soon after to LUMI. LUMI is one of the pan-European pre-exascale supercomputers of the European High Performance Computing Joint Undertaking

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(EuroHPC JU), hosted by the LUMI consortium with 11 European countries at CSC's data center in Kajaani, Finland.

CSC discovered Open OnDemand, which is supported by funding from the National Science Foundation, during a session at the 2019 Supercomputing Conference that provided an overview of the portal's capabilities and possibilities, said Sebastian von Alfthan, computing environments group leader. After comparing it to other available solutions, the Center decided to use Open OnDemand with all of its systems. Each of the three supercomputers now has four Open OnDemand environments of its own, which allows the CSC staff to manage testing, staging, production and future developments.

Since implementation of Open OnDemand, about 50 percent of users of Puhti are actively engaging with the web portal, and some are using it as their main interface to the systems. Open OnDemand has provided ease of access for new users with no Linux experience, as well as for participants in academic courses. Other benefits include the capability for users to run customized Jupyter environments, accelerated graphics that enable scientific visualizations, and improved management of cloud storage and data transfer.

CSC also has appreciated OSC's responsiveness to feedback and integration of the Center's suggestions into the Open OnDemand platform. The CSC team developed new remote file browsing capabilities (Rclone integration) that were featured in the Open OnDemand 3.0 version release.

"We receive very good support from OSC on improving Open OnDemand and adding features," von Alfthan said. "We have a real ability to affect the solutions, which means we can adopt it with greater confidence and do long-term planning. This has enabled CSC to develop new features that provide key capabilities we require."

osc.edu/csc

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.

openondemand.org/anydevice