

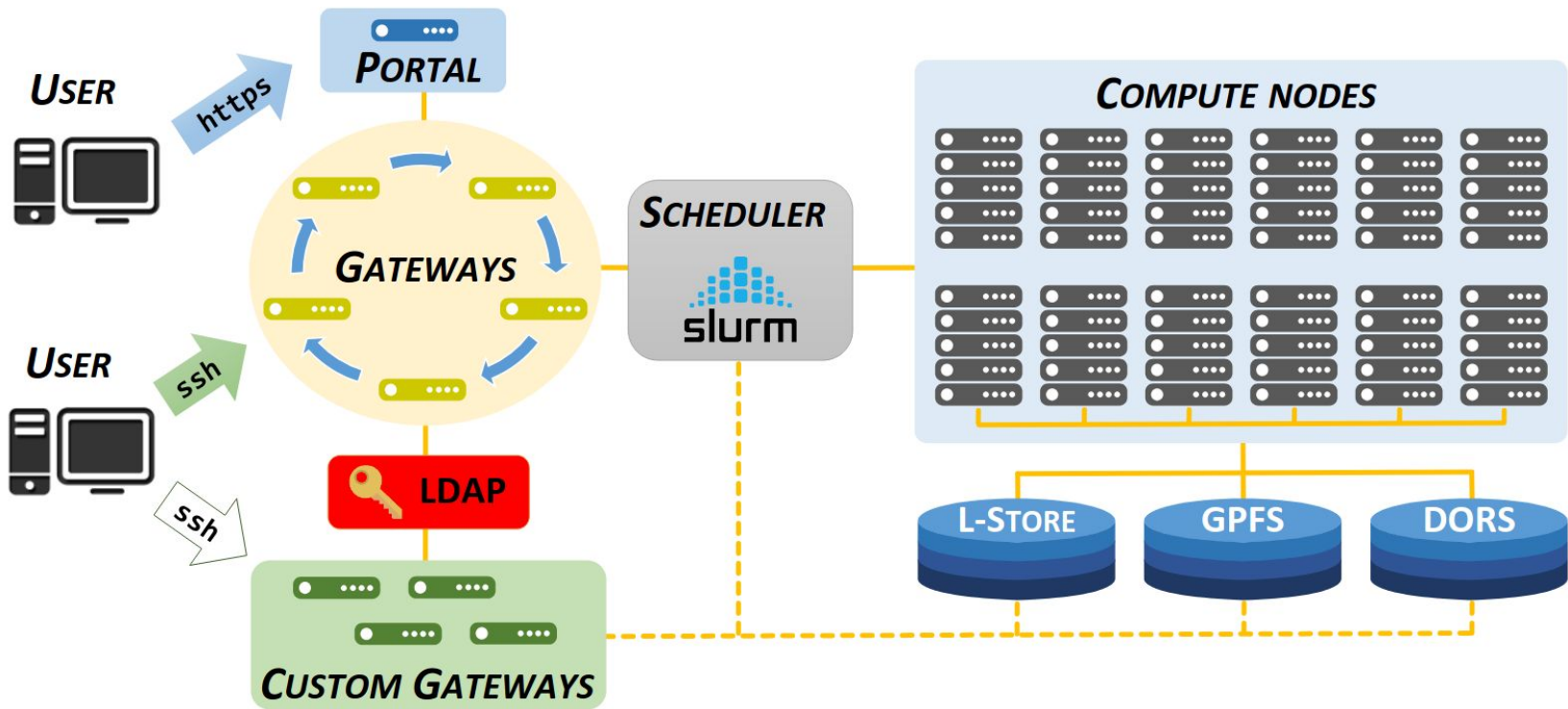
ACCRE Project

The Advanced Computer Center for Research and Education (ACCRE) is a high-performance computing center at Vanderbilt University, serving as the centralized computing infrastructure for researchers.

ACCRE contains more than 600 multi-core systems with about 10k CPU cores and 200 GPUs in a 4000 square foot facility.

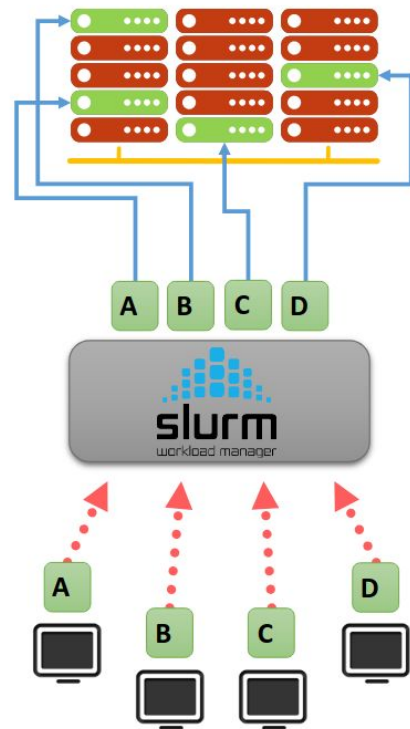
In this project, you'll be working with data on jobs run at ACCRE.

ACCRES Project



ACCRE Project - Scheduler

- 1 Execute user's workloads in the right priority order
- 2 Provide requested resources on compute nodes
- 3 Optimize cluster utilization



ACCRE Project - Scheduler

The scheduler must accommodate both small and large jobs, sometimes requiring complex calculations to “backfill” jobs outside of priority order.

These backfill calculations are expensive, meaning that it can be difficult to quickly start lots of jobs.

Backfill can cause slowdowns and even unresponsiveness.

The big question: how many jobs can ACCRE process in an hour before issues emerge?

ACCRE Project - Open Science Grid

ACCRE is part of the Open Science Grid (OSG), a collaboration connecting clusters into a nationwide virtual computing center.

CE5 and CE6 are special servers that submit jobs at ACCRE from the OSG.

You have been provided with a log of all communication commands between CE5/6 and the scheduler. This will be used to determine when the scheduler was unresponsive.