GlideinWMS

LeRayah Neely-Brown

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Supervisor: Bruno Coimbra

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GlideinWMS, HTCondor, & Their Importance

High Throughput Computing

HPC is the use of many computing resources over long periods of time to execute a computational task. Many High Energy Physics experiments require this to carry out simulations, data reconstruction, and data analysis.

Glidein Workflow Management System

GlideinWMS is a tool that distributes High Throughput Computing. GlideinWMS consists of 3 components: Glideins, Factory, and Frontend.

HTCondor

HTCondor is a Workload Management System; a batch system for jobs. HTCondor system is used for scheduling and job control.

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GlideinWMS Workflow

Glideins: Scouts for resources and validates the Worker node, customizes node, and prepares it to be executed via HTCondor
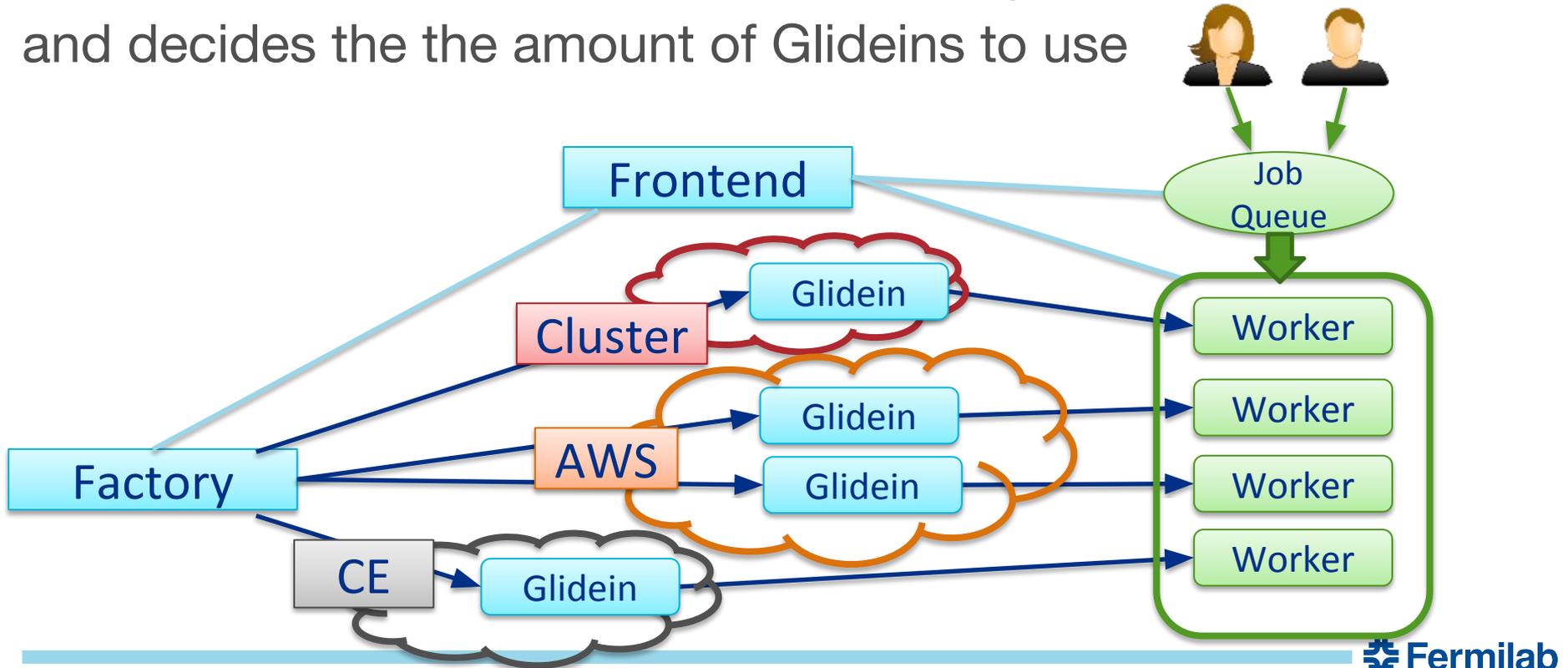**Factory**: Knows how to submit nodes to the site
Frontend: Monitors jobs to see how many Glideins are needed and decides the the amount of Glideins to use

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Issues with GlideinWMS

Current Steps To Test a Job

➔ Have to the frontend

➔ Have to submit a job

➔ Submit the job to the factory

➔ Submit a Glidein

➔ The Glidein may end up to many different sites

➔ Need to get the Glidein to the **SPECIFIC** site wanted

➔ **THEN** start the actual job at the correct specific job

Problems

➔ Glideins run in different places

➔ Software keeps changing, so want to make easier to test new sites and new software

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My Role in the GlideinWMS Project

Goal

➔ Build a testing application that directly submits a Glidein to worker node site that is wanted

➔   Test the components of the Glidein and the site

Steps To Build the Testing Application

➔ Create an outline of the design & decide if the application should be integrated with GlideinWMS or be a seperate application

➔ Develop it

➔ Test it on FermiCloud, Fermilab's cloud computing

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