ACME Dashboard

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Objective

As the threat of global warming comes into the real world, the demand for accurate, repeatable climate science is growing at a tremendous pace. In order for the ever-increasing number of researchers, as their climate models grow in both size and complexity, climate science tools need to Improve.

We are doing so with a single web application, able to handle the diverse needs and growing demands of the climate science world, following the same continuous delivery deployment model as SaaS businesses.

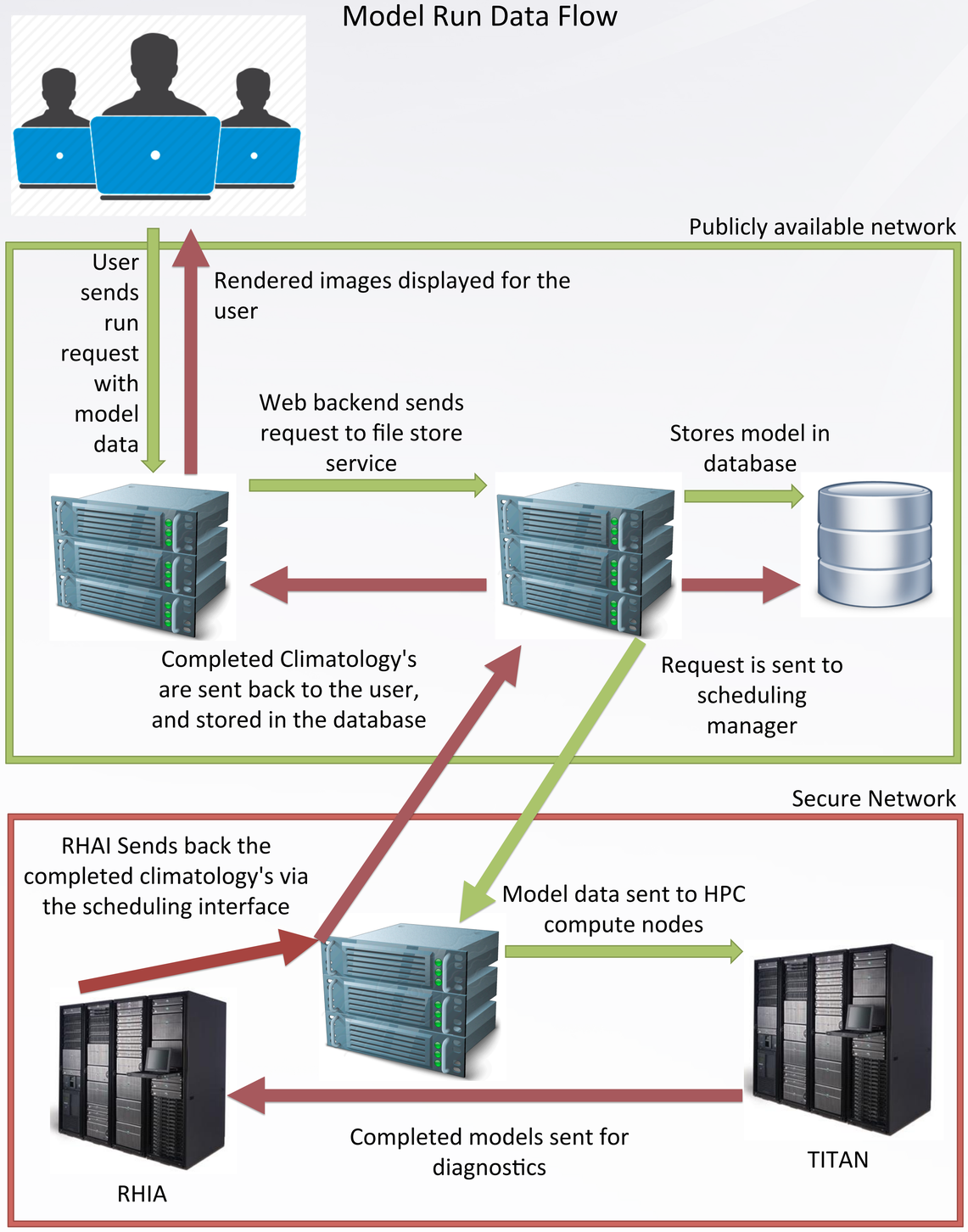
Approach

The ACME Dashboard will allow researchers to divorce themselves from the fine-grained Details of creating and maintaining their simulation environment, and automate away all the many laborious tasks that keep them away from their real work: doing science.

The interface is built around a tiling window manager written from scratch in javascript, with each window encapsulating a service. The Dashboard gives scientists easy access to the hundreds of petabytes of climate data stored in the ESGF distributed network, as well as abstracting out the difficulty of running their models on the TITAN super computer at ORNL

Web frontend GUI mockup

Model Run Data Flow



ESGF django jQuery SQL

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climatemodeling.science.energy.gov/acme

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