

CloudLab

CloudLab is flexible, scientific infrastructure for research on the future of cloud computing. Researchers come to CloudLab to build their own clouds, experimenting with new architectures that will form the basis for the next generation of the world's computing platforms.

Build Your Own Cloud...

CloudLab provides researchers with control and visibility all the way down to the bare metal. Provisioning an entire cloud inside of CloudLab takes only minutes. Most CloudLab resources provide hard isolation from other users, so it can support hundreds of simultaneous "slices", with each getting an artifact-free environment suitable for scientific experimentation with new cloud architectures. Run standard cloud software stacks such as OpenStack and Hadoop. Or, build your own from the ground up. The bare metal's the limit!

CloudLab is built from the software technologies that make up Emulab and parts of GENI, so it provides a familiar, consistent interface for researchers.

... On Our Hardware

The first CloudLab clusters will have 15,000 cores distributed across three sites around the United States: Utah, Wisconsin, and South Carolina. Each cluster has a different focus: storage and networking (using hardware from Cisco), high-memory computing (Dell), and energy-efficient computing (HP). CloudLab is interconnected with nationwide and international infrastructure from Internet2, so it will be possible to extend private, software-defined networks right to every host.

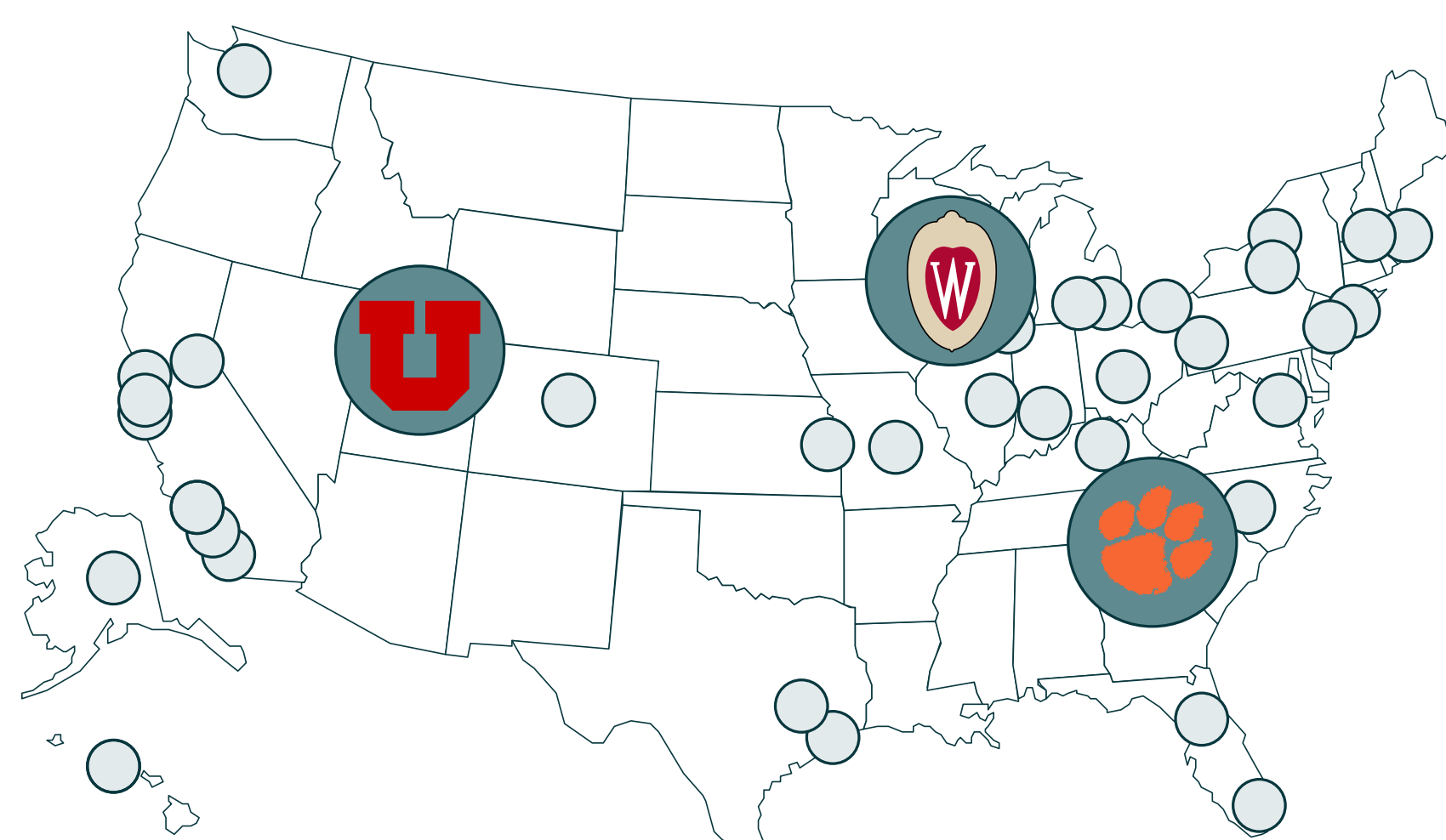
CloudLab will interoperate with existing testbeds including GENI and Emulab, so you can take advantage of hardware at dozens of sites around the world.

Hardware Basics:

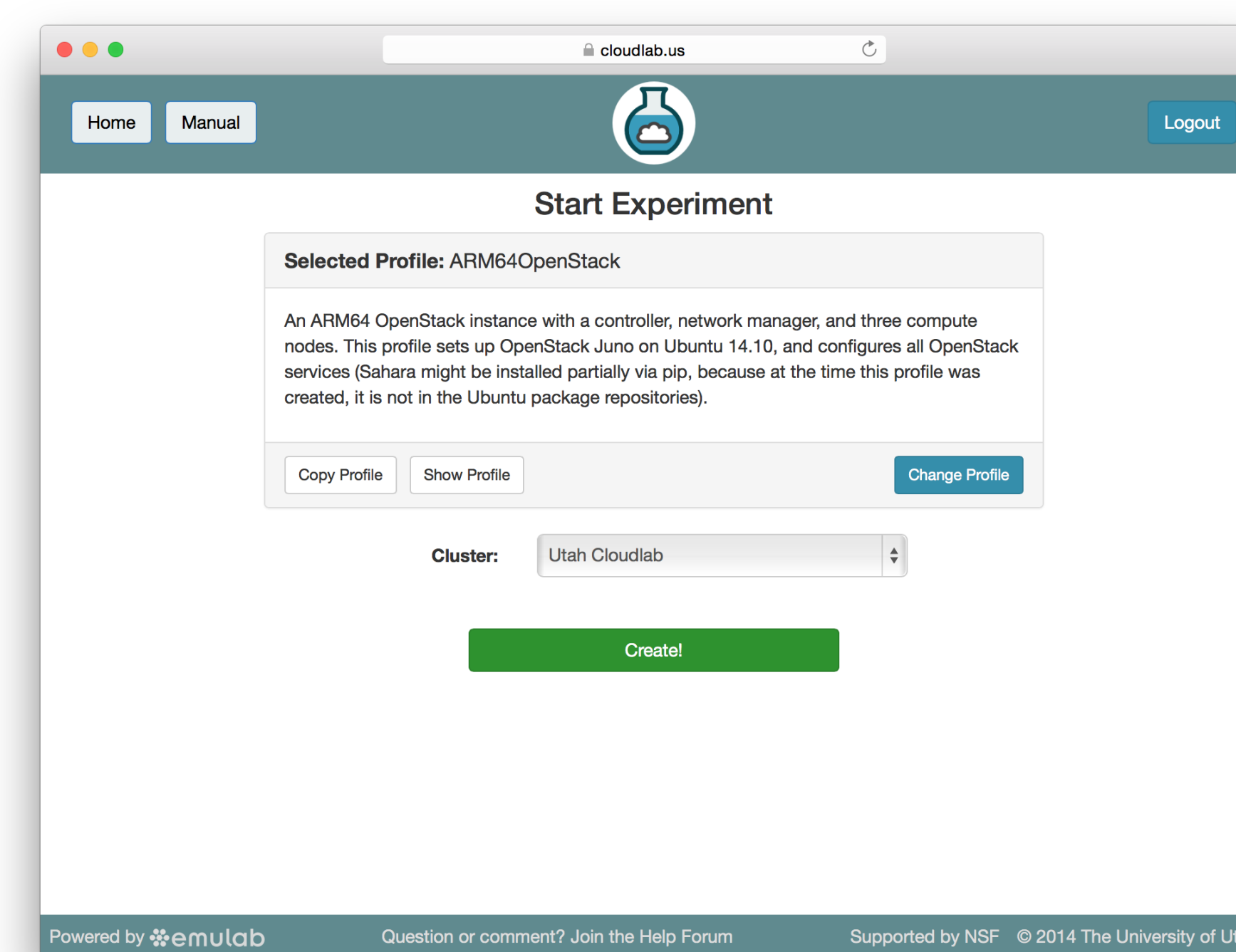
- 3 Sites, each with its own theme
- Storage and networking (Wisconsin)
- High-memory computing (Clemson)
- Power-efficient clouds (Utah)
- 15,000 cores (on their way)
- Local SSD and/or HDD on each node
- 8 - 16 GB RAM per core
- SDN within and between sites
- 10 Gb Ethernet and 40 Gb Infiniband
- 3 different network topologies
- Out of band experiment control
- x86 and ARM64

Fully Federated:

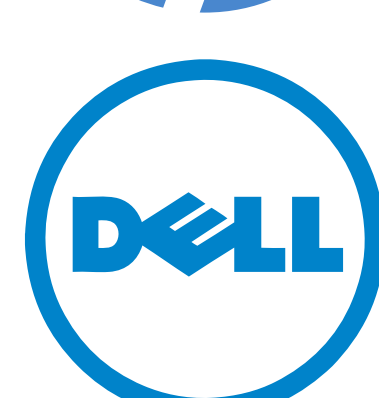
- One integrated facility
- Federated with GENI
- Interconnects with Internet2 AL2S



○ GENI Rack Sites



CloudLab makes it as easy to build your own cloud as it is to get a virtual machine on someone else's cloud



Open for Research!

Use your GENI account, or sign up, at:

www.cloudlab.us