

Overview of TACC

Victor Eijkhout

spring 2017

Your instructors

Victor Eijkhout

Charlie Dey

work at the
Texas Advanced Computing Center

So where is TACC?



How do you get to TACC?



Pickle Campus

Formerly Balcones Research Center,
location of some of the best wildflowers in Austin.



TACC

- Started in 2001 with 10-ish people
- History goes back approx 15 years.
- First major supercomputer in 2008: Ranger.

TACC now

- 130-ish people, divided in Systems, High Performance Computing, Big Data, Visualization, Outreach (and more) groups.
- 15 platforms
- 200 public data collections
- 30 web portals with 35k users
- new 10MWatt data center
- second new building in 10 years

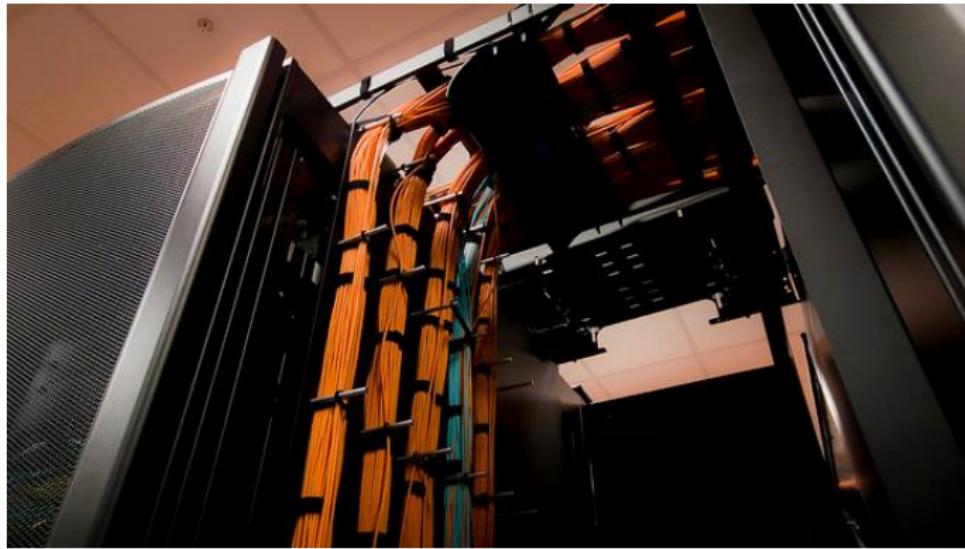
Stampede

- Our current biggest machine: cost \$50M
- 6400 nodes with 2 Intel Sandybridge and 1 Intel Xeon Phi
- (also 100 or so GPUs)
- 75 miles of cabling, up to 4.5Mwatt power
- Used by 5000 users, up 98% of the time, so far 6 million jobs

Stampede



Stampede cabling



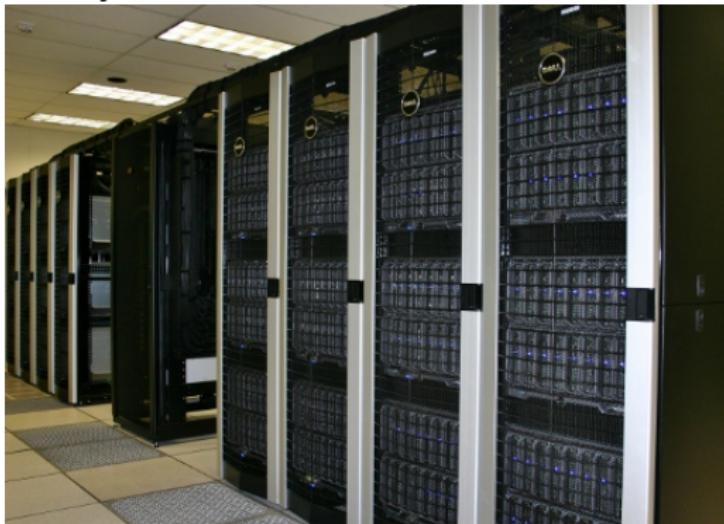
Maverick

GPU machine



Lonestar4

Finally been turned off . . .



(Want to guess how much a computer costs? How long it stays operational?)

Lonestar5

Our new Cray



Hikari



Hikari cooling



Big data

- Wrangler: big data machine with lots of SSDs
- Rustler: hadoop cluster
- Stockyard: 20Pbyte spinning disc (shared between all clusters)
- Ranch: 50Pbyte of tape

Wrangler



Clouds

- Rodeo: early cloud machine
- Chameleon: cloud research
- Jetstream: for educational use

Jetstream



Catapult

Microsoft FPGA machine learning platform

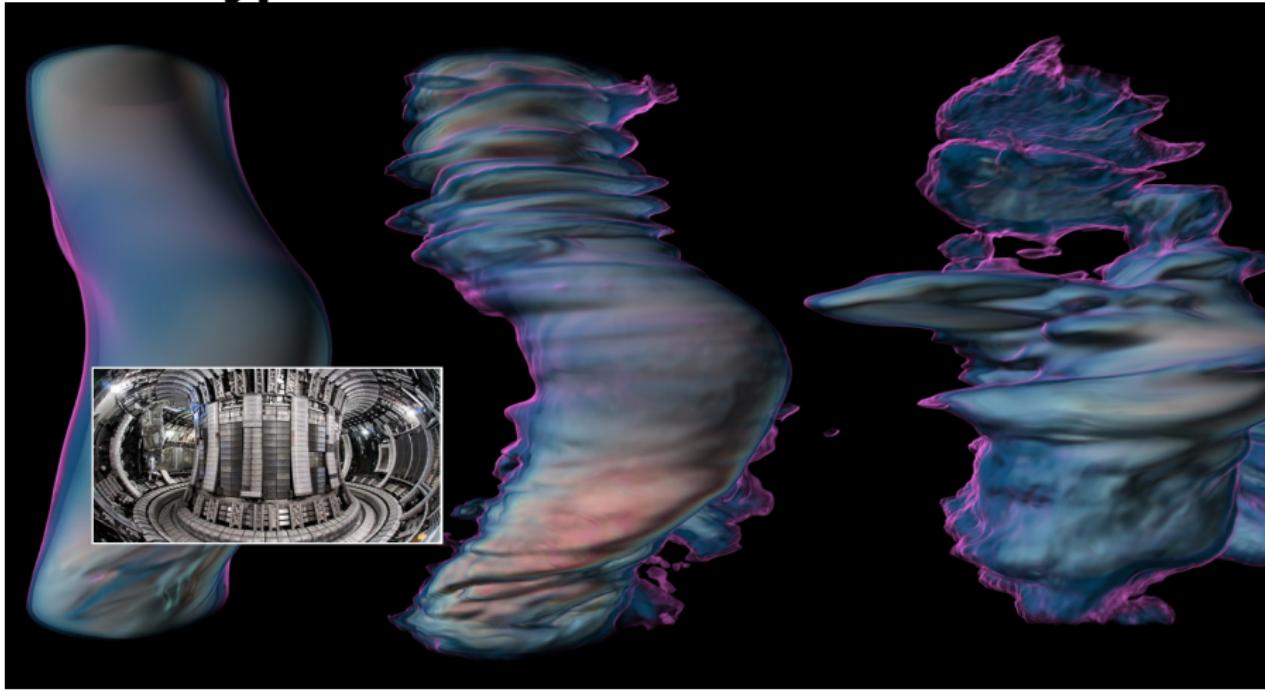


Stockyard

Mass storage



Typical academic customer



Non-typical academic customer



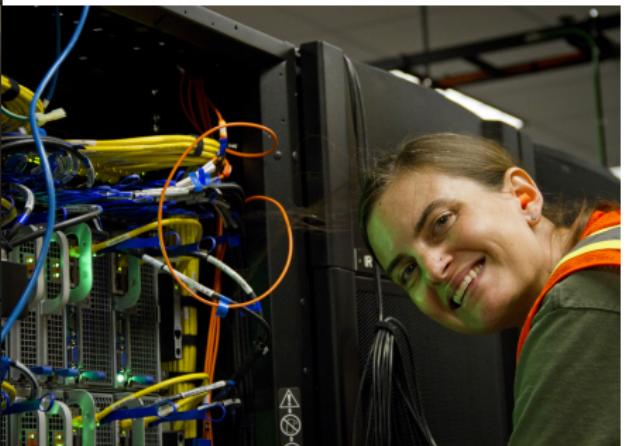
Typical non-academic customer



We're very hands-on



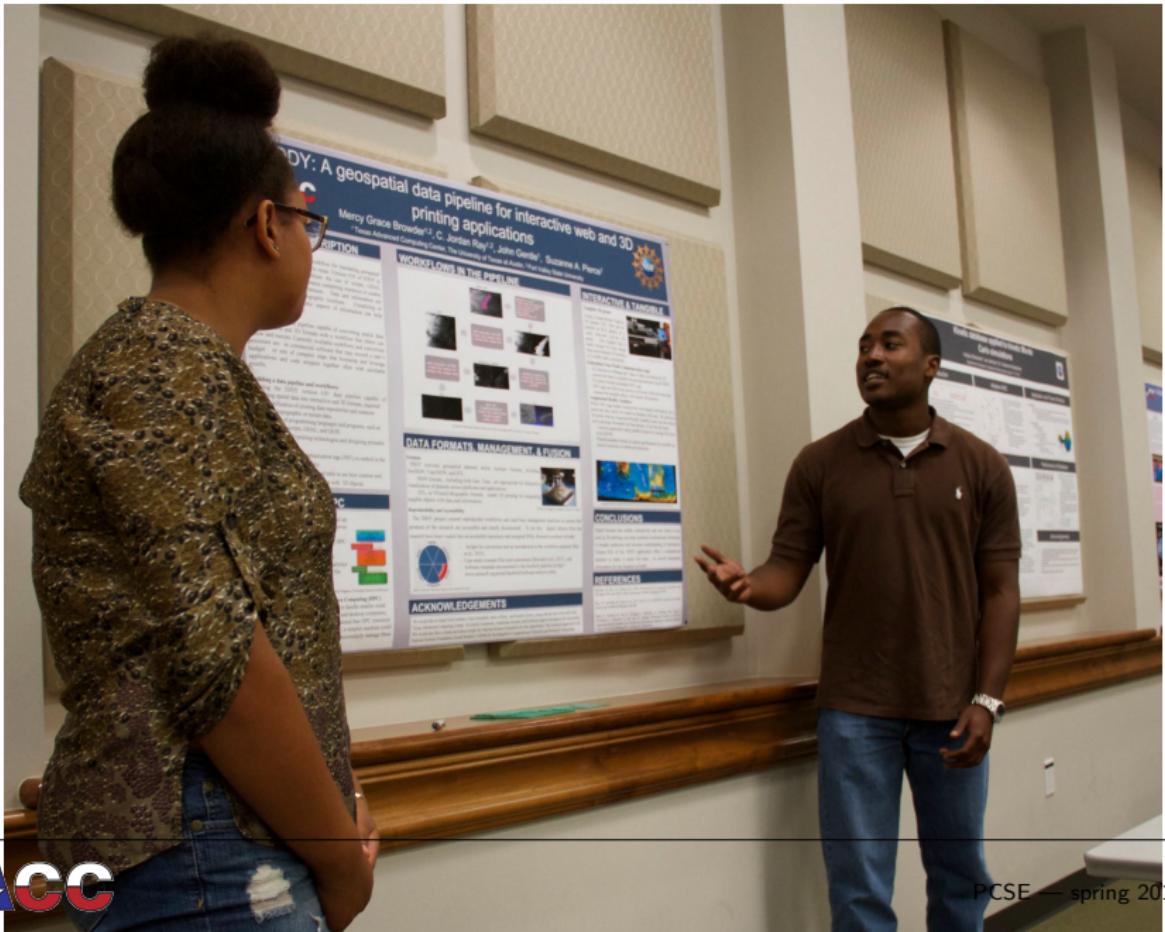
We're very hands-on



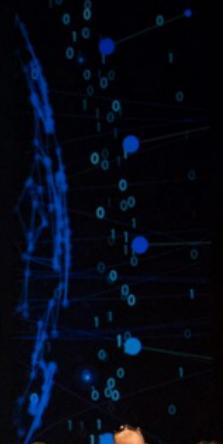
We're very hands-on



Student activities: REU



Student cluster competition



OVERALL WINNER

*UNIVERSITY OF TEXAS -
AUSTIN*



Outreach: Code at TACC



A year ago...



Our new building



TACC is a nice place to be

