

Ranger

Hardware and Environment

Drew Dolgert (Nate, Susan,
others)

TeraGrid!

kilo 1000

mega 1000,000

giga 1000,000,000

tera 1000,000,000,000

peta 1000,000,000,000,000

Grid



Consortium





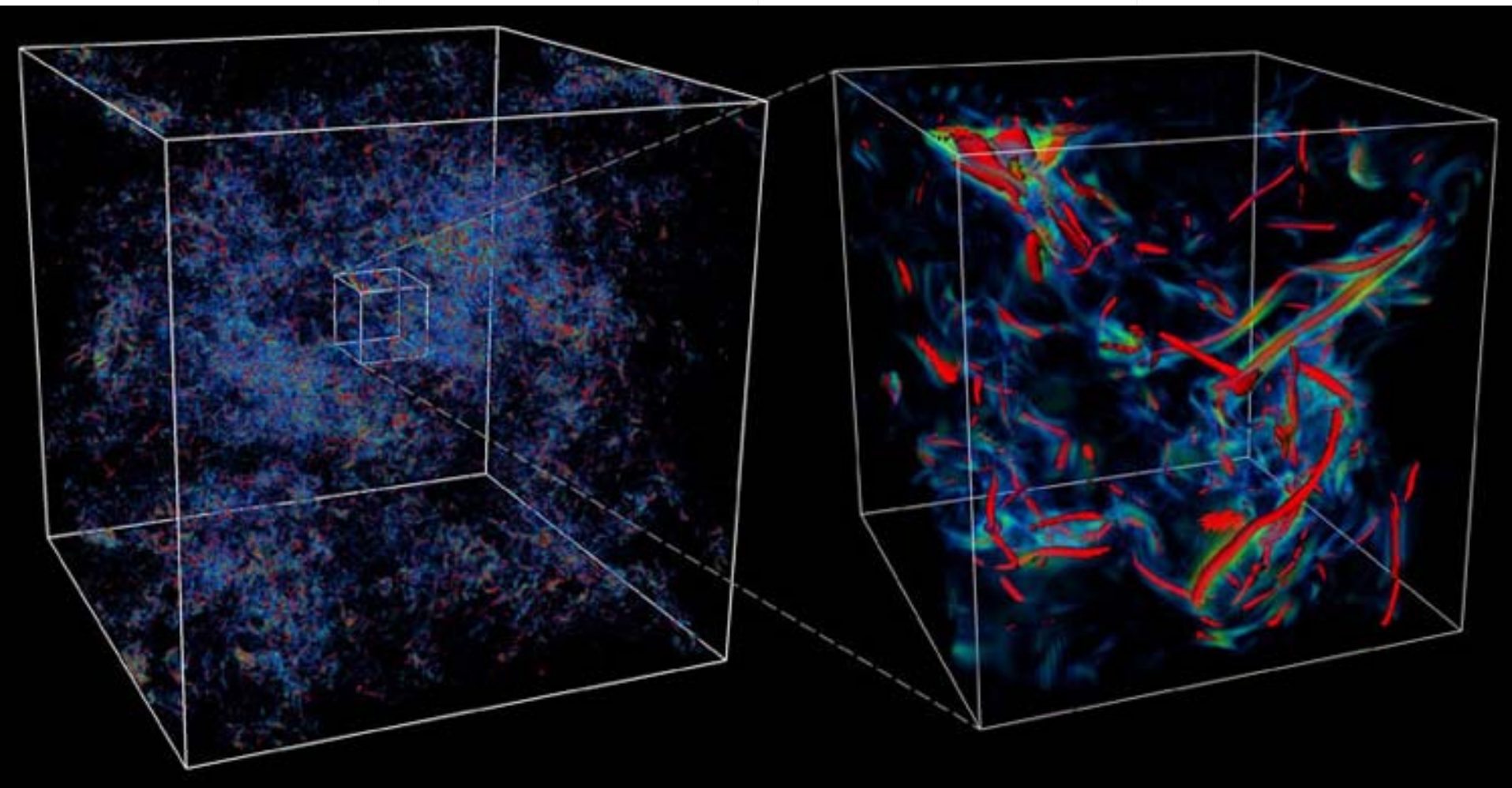
Computing



Storage



Visualization



Data Courtesy of: Diego A. Donzis, P.K. Yeung
Visualization by: Gregory P. Johnson, Kelly P. Gaither

Consulting



Portal



portal.teragrid.org



Allocations

Startup • Education Research

Jan 15

April 15

July 15

October 15





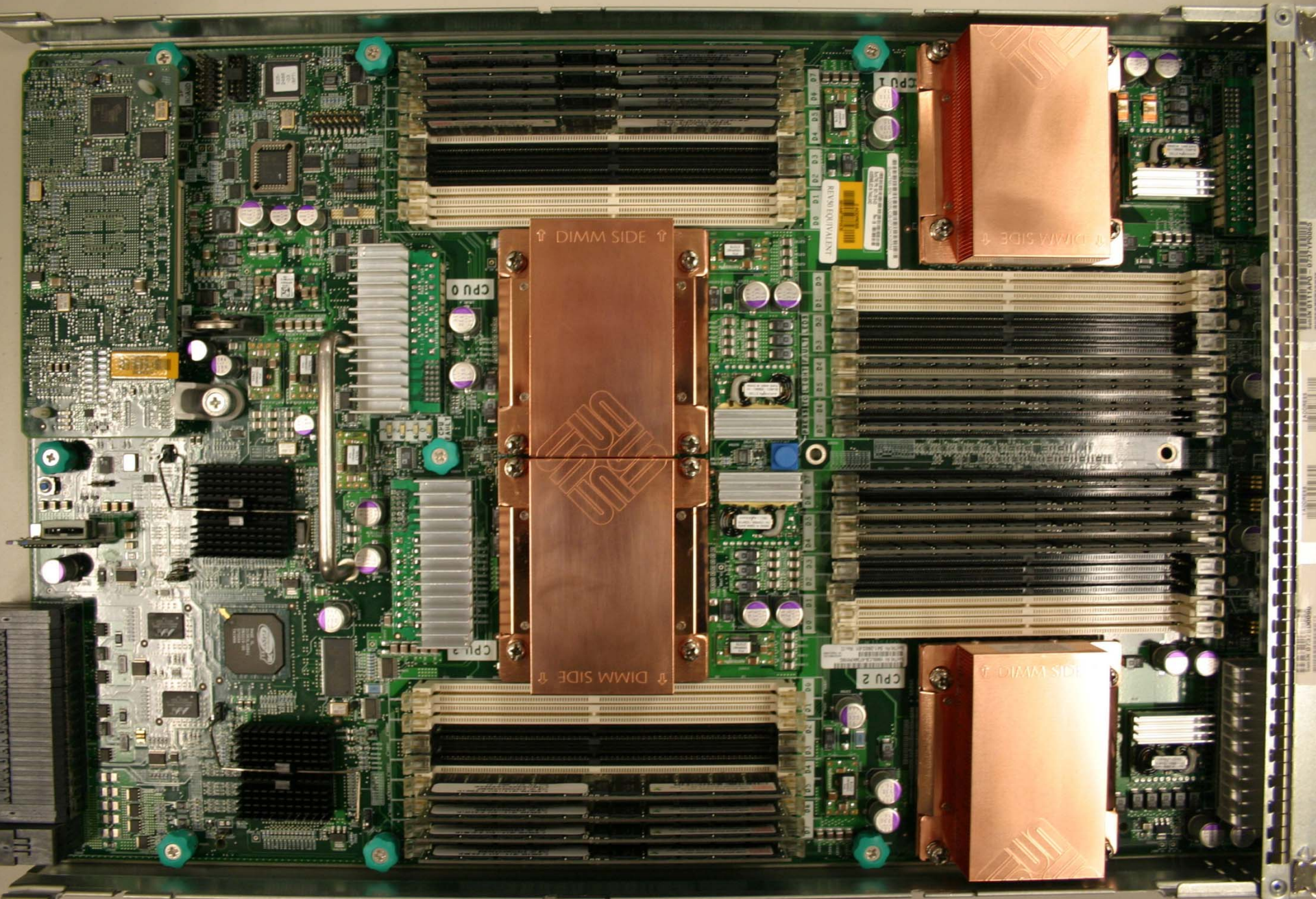
6

. . .

. . .

. . . .





↑ DIMM SIDE ↑

CPU 0

↓ DIMM SIDE ↓

CPU 2

CPU 1

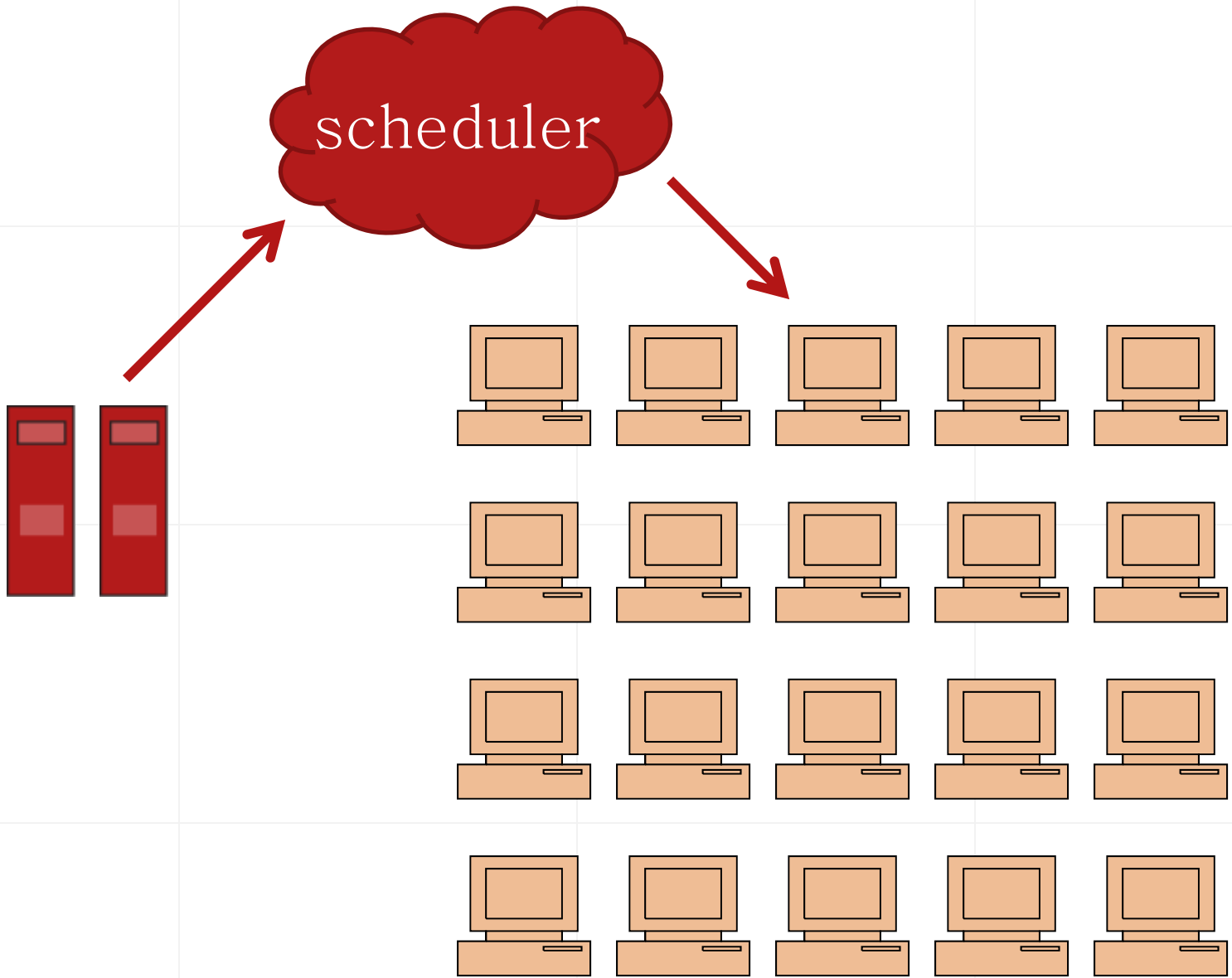
CPU 2

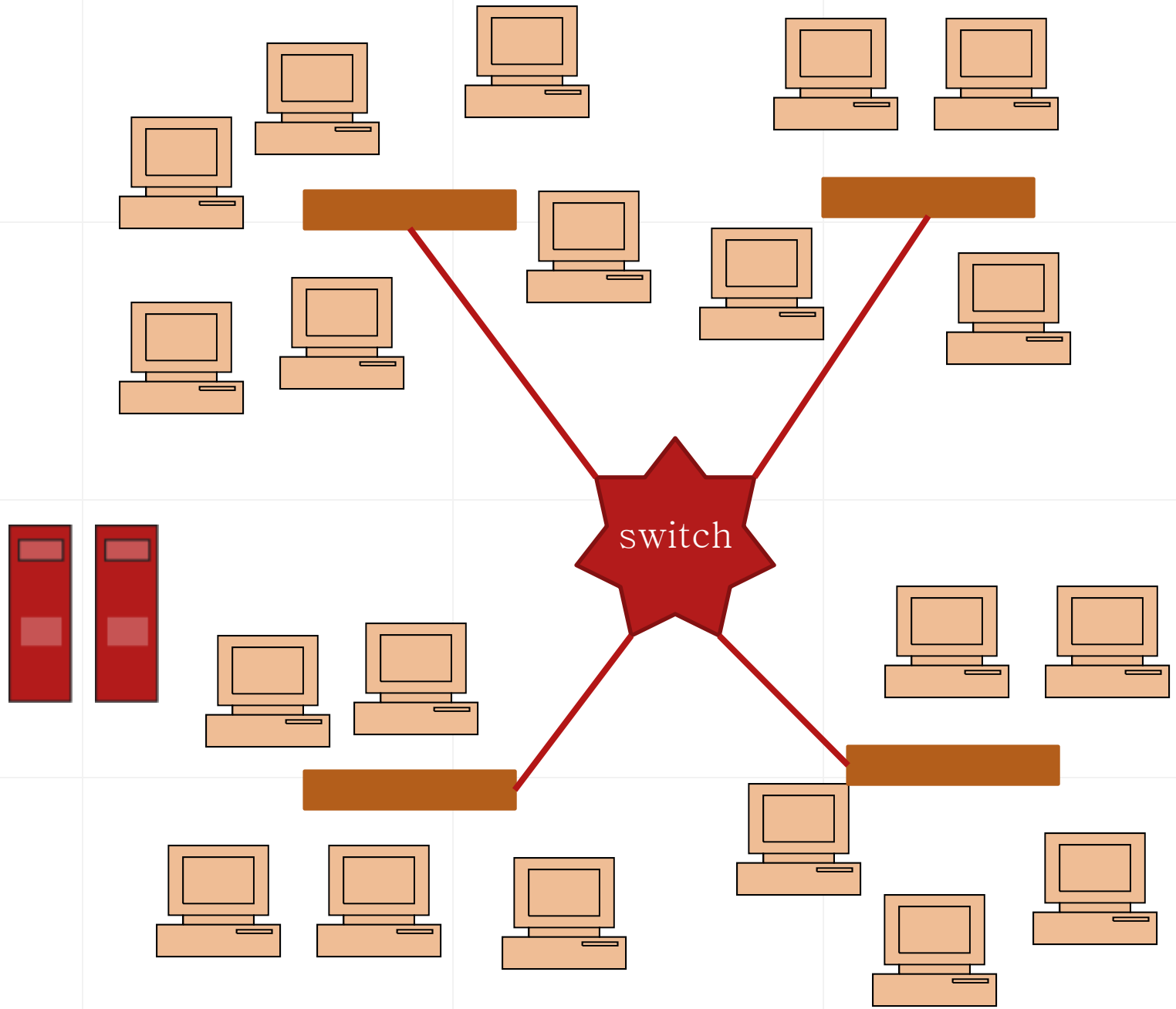


DELL R720 CPU 0
DELL R720 CPU 2









train4xx@ranger.tacc.utexas.edu

train4xx@tg-login.ranger.tacc.terag

train4xx@login3.ranger.tacc.utexas.

Exercise

2.2 Use SSH to Connect

2.3 Starting: Read Examples

- or -

2.4 Further: Using X-Window

Working
Directory

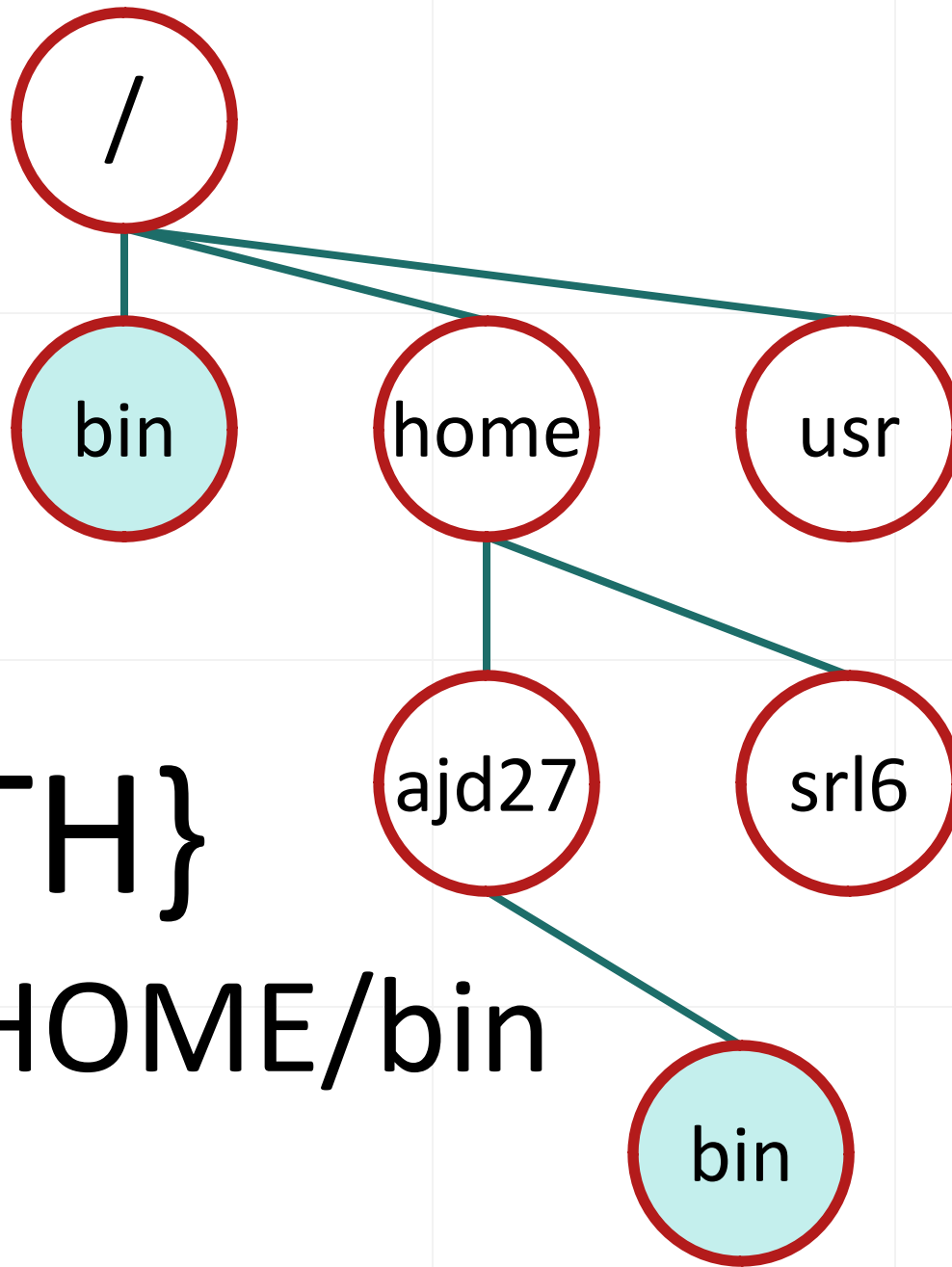
Variables



S H E L L



(other things)



`{PATH}`

`/bin:${HOME}/bin`

Exercise

3.3 Learn Modules

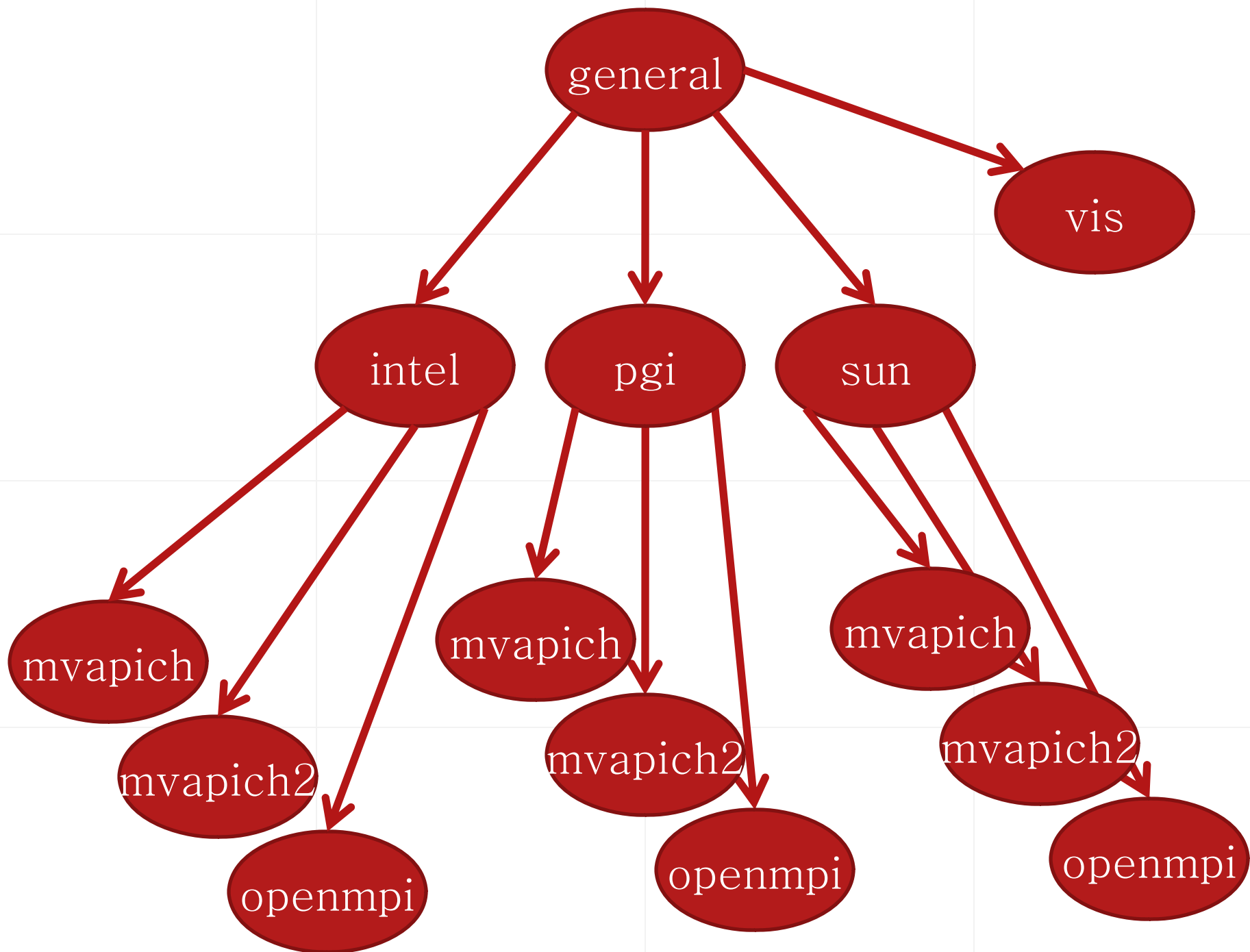
\$PATH

\$LD_LIBRARY_PATH

\$TACC_PACKAGE_INC

\$TACC_PACKAGE_LIB

\$TACC_PACKAGE_DIR

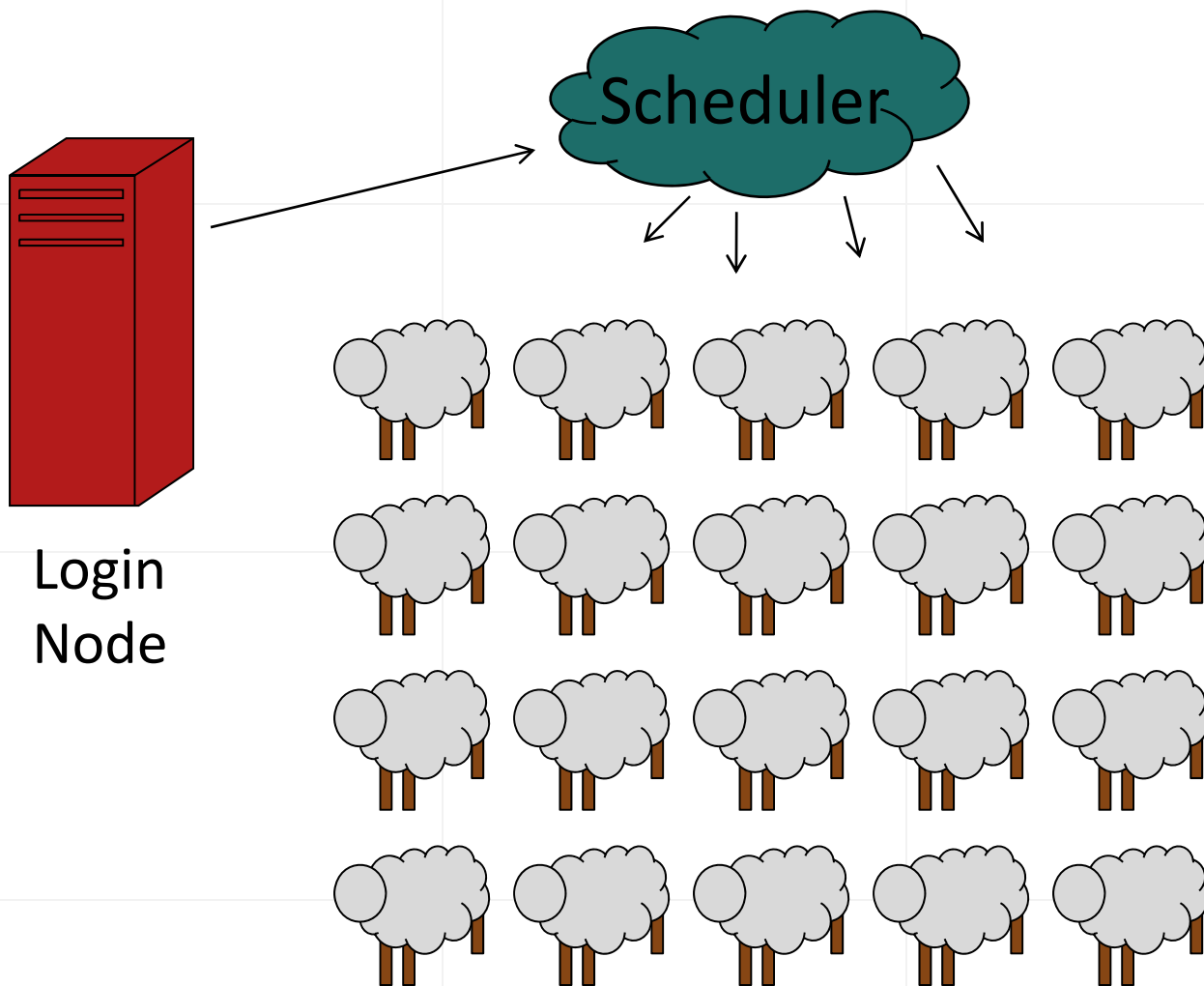


Exercise

3.5 Exercise: Compilation

Run in batch!

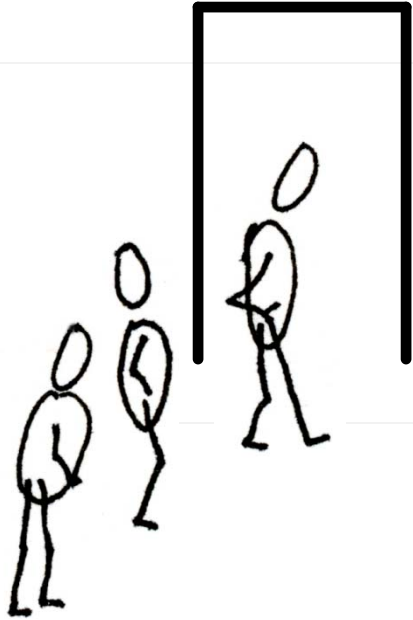




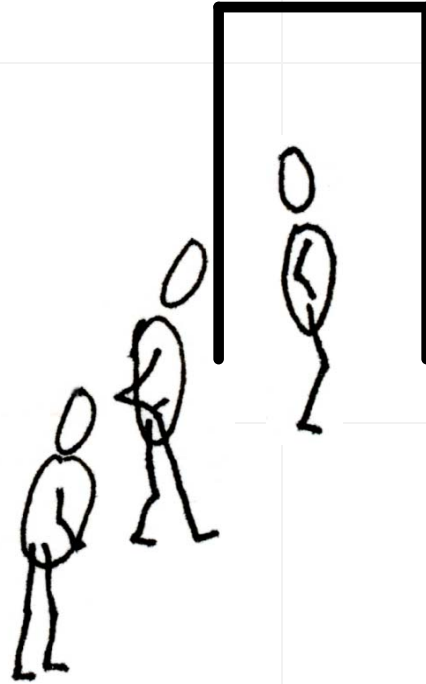
Login
Node

Scheduler

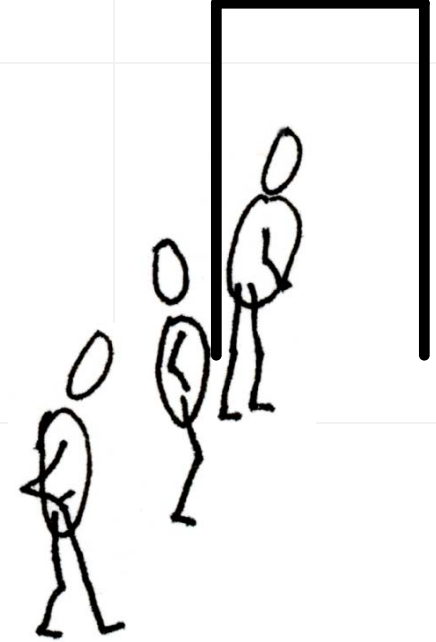
normal



development



large



Check out Section 4.3.

account

name

variables

join

#\$ Dear Scheduler,

TODO

Exercise

4.6 Exercise: Run in Batch

Got it





\$HOME



\$WORK

\$SCRATCH



scp from to

user@machine.domain.edu:pat

scp

sftp

OpenSSH

Exercise

5.5 Exercise: Retrieve Files with SCP

GridFTP



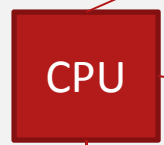
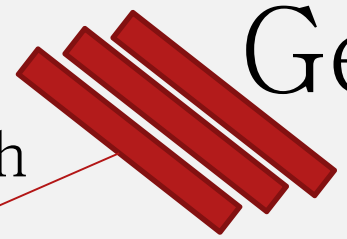
TeraGrid
Credentials

uberftp

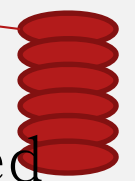
globus-url-cc

Getting Good Speeds

memory
bandwidth



disk
speed



your computer



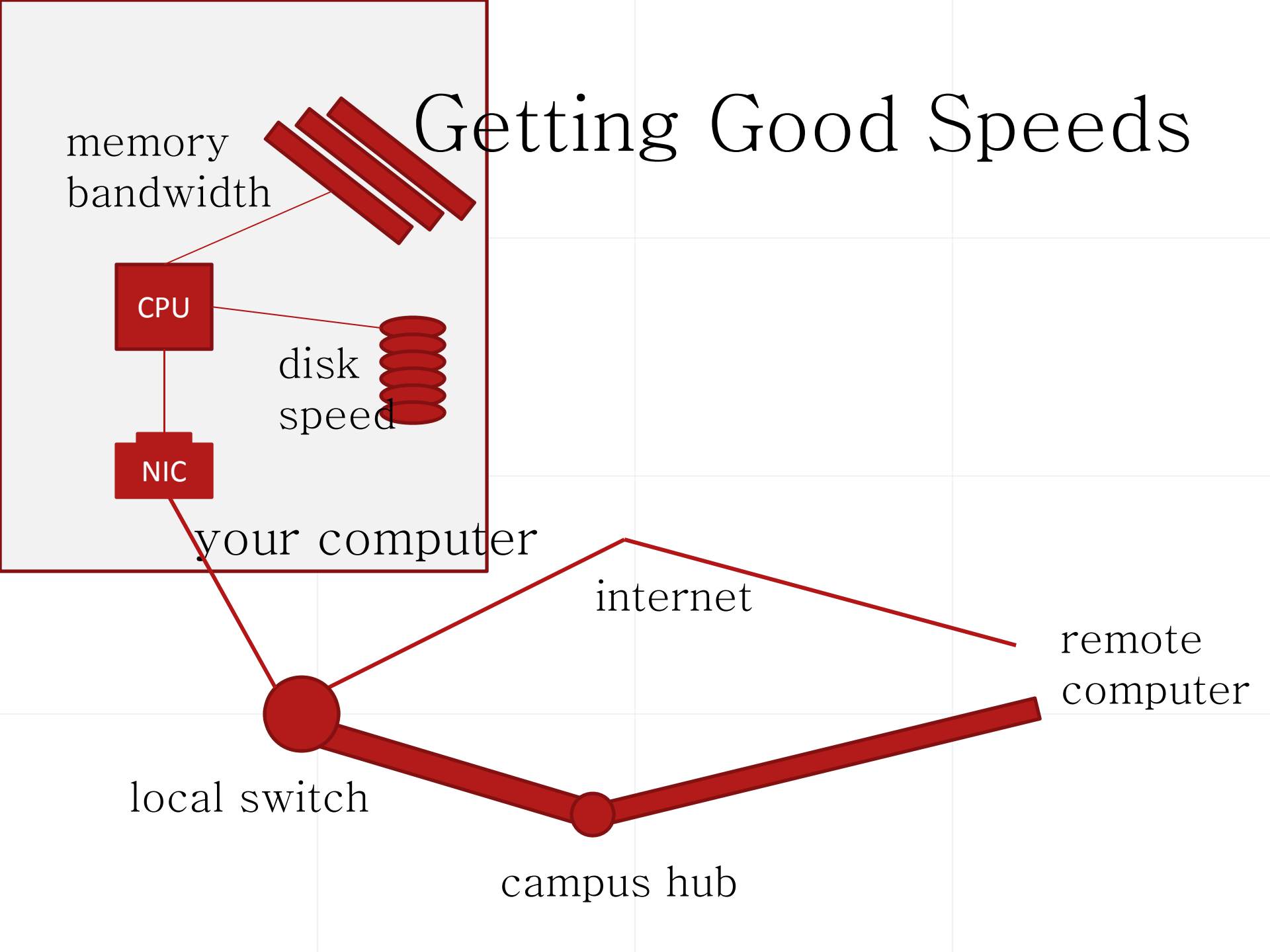
local switch

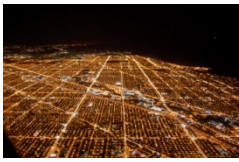


campus hub

internet

remote
computer





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Source: U.S. Department of Commerce,
National Oceanic and Atmospheric
Administration [\[1\]](#)



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<http://www.flickr.com/photos/johncohen/55582632/>