CSE 590o: Chapel

University of Washington
October 3, 2007

Today

- A few loose ends from last week
- TODOs
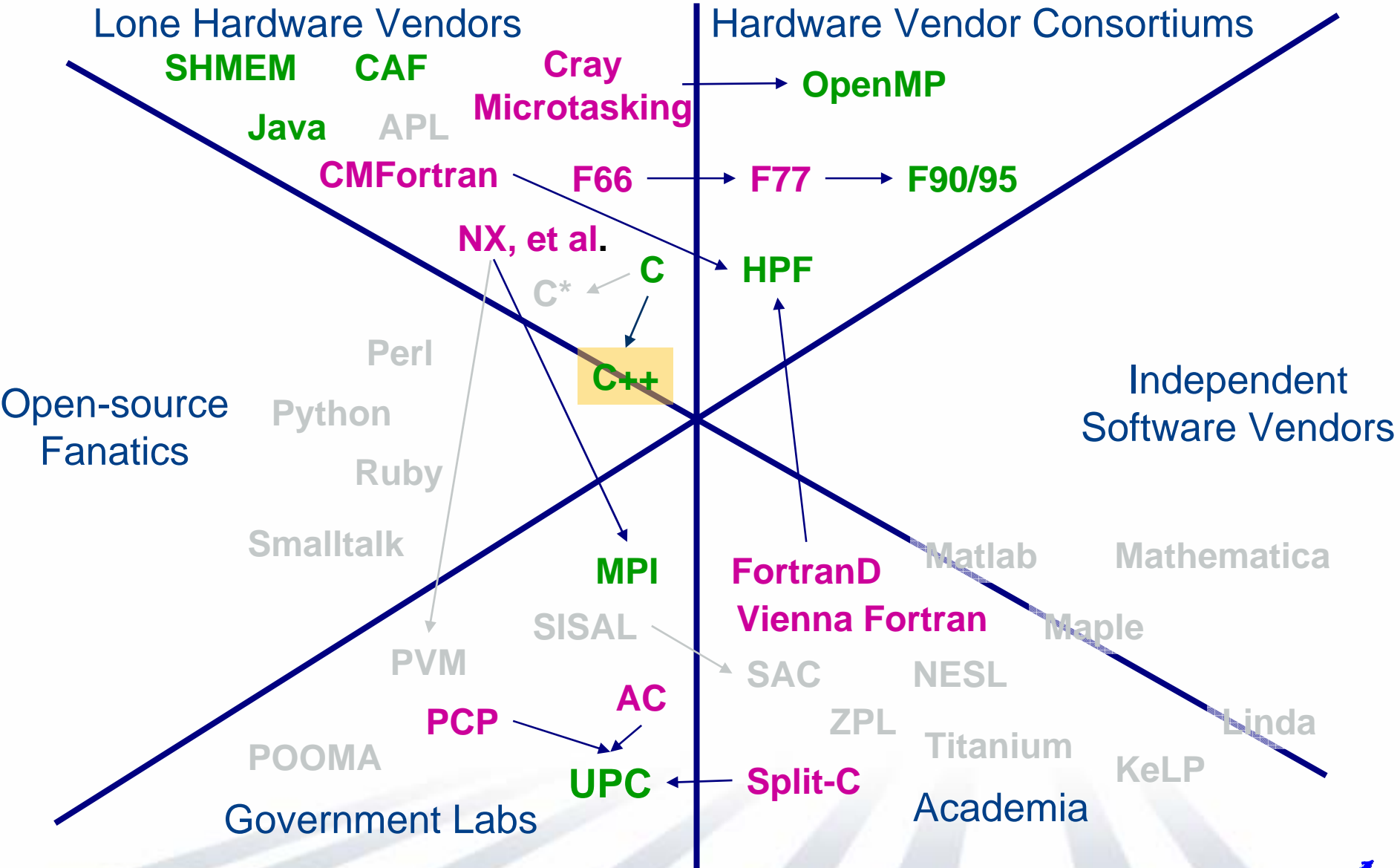- The IJHPCA paper

Office Hours

Office: CSE 450

When: Wed 4:30-5:30 (typically; might check to be sure)

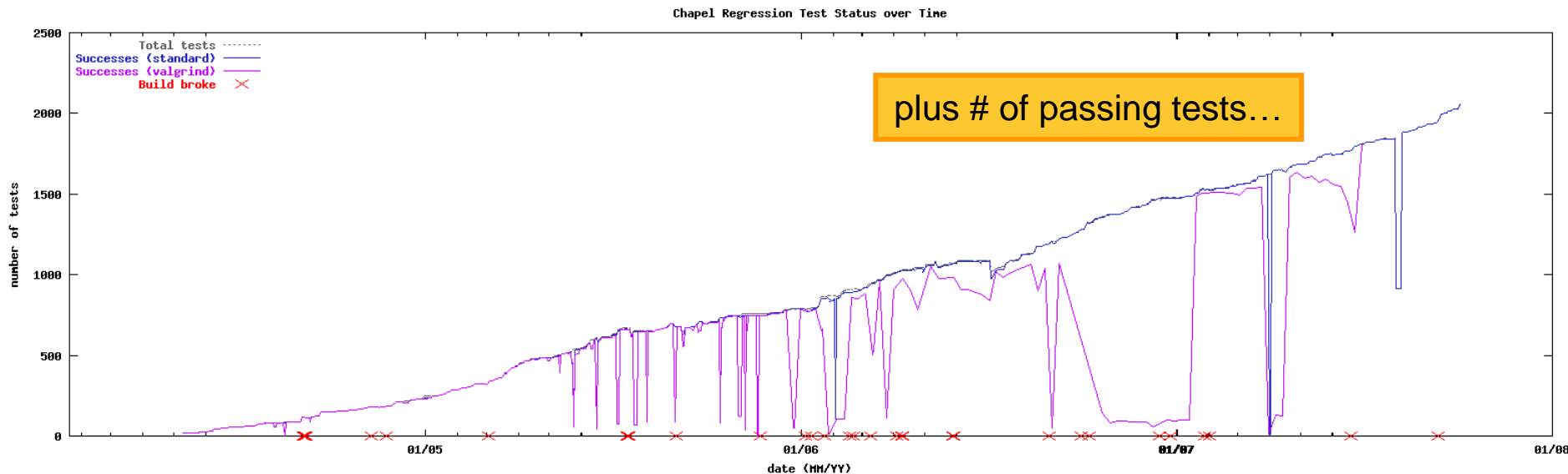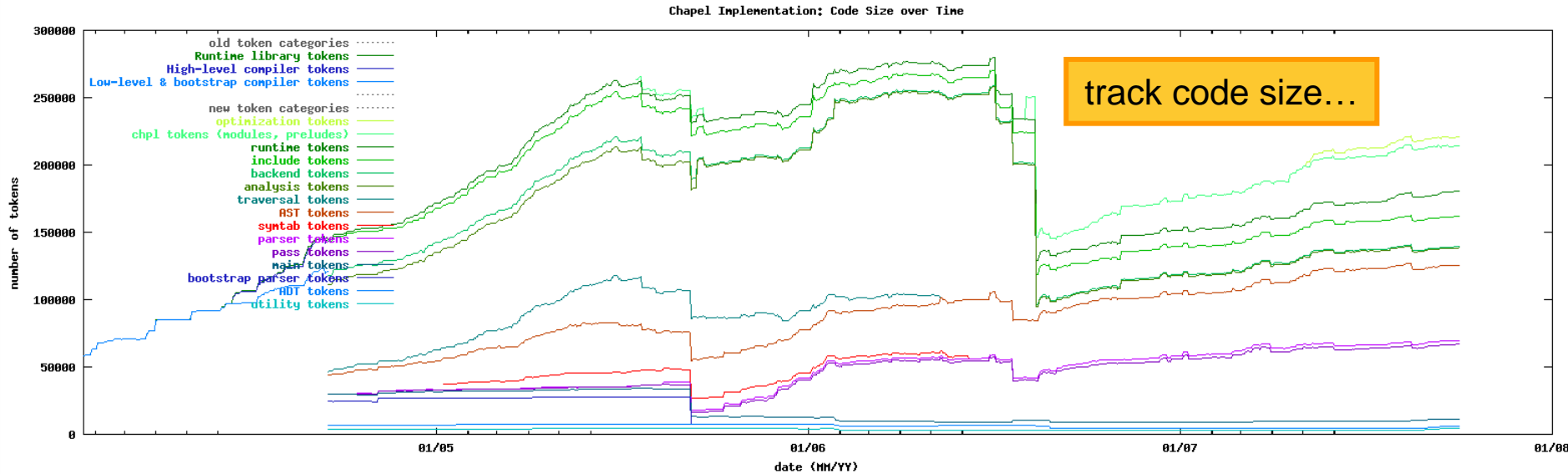By appt. Wed 1:00-2:30, or possibly some other time

Who are you? (take 2)

- Name
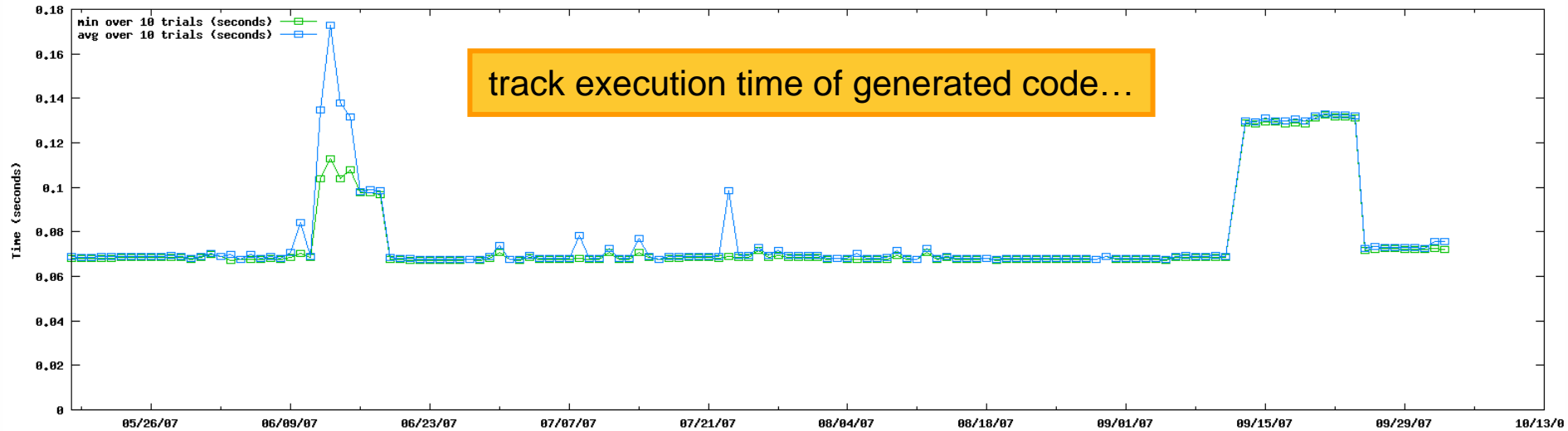- Interest areas (in general, for Chapel)

Where do Languages Come From?

Lone Hardware Vendors

Hardware Vendor Consortiums

Open-source Fanatics

Independent Software Vendors

Government Labs

Academia

SHMEM CAF Cray Microtasking OpenMP

Java APL

CMFortran F66 F77 F90/95

NX, et al.

C* C HPF

C++

Perl

Python

Ruby

Smalltalk

MPI FortranD Vienna Fortran

Matlab Mathematica

SISAL Maple

PVM SAC NESL

AC ZPL Linda

PCP Titanium

POOMA UPC Split-C KeLP

slide contents created jointly with Burton Smith

One Chapel Team Productivity Indicator…

Chapel Implementation: Code Size over Time

track code size…

Chapel Regression Test Status over Time

plus # of passing tests…

And as an additional sanity check…

STREAM Triad Execution Time over Time

track execution time of generated code…

Compilation Time of NAS CG

and the compiler…
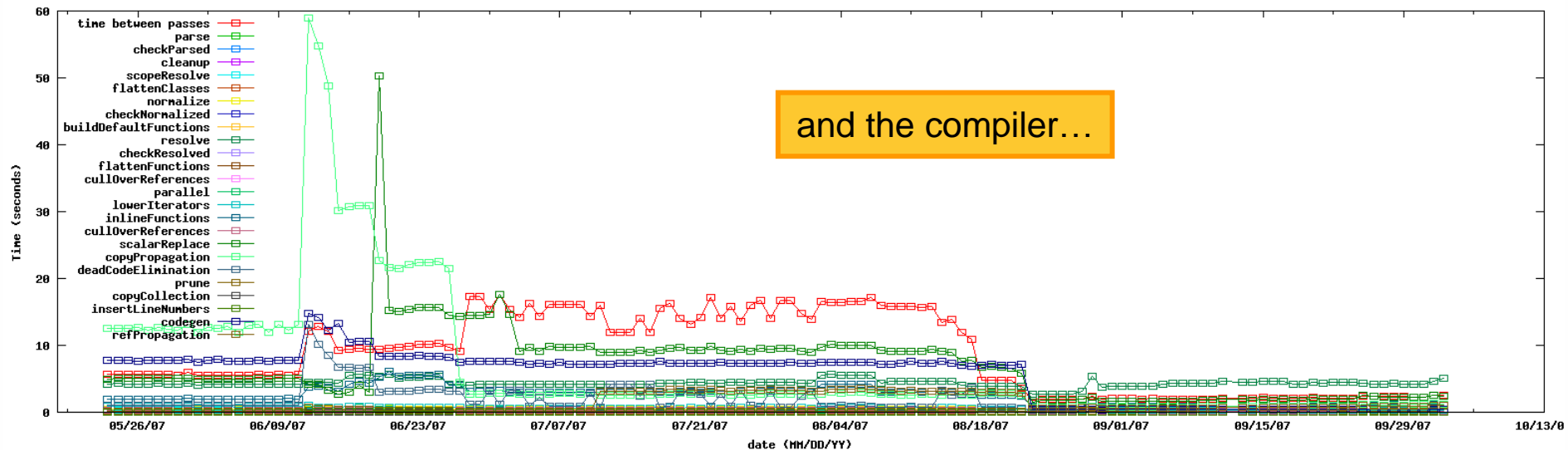
Last week's TODOs

- Yours:
  - read IJHPCA paper (link to paper on course web)
  - mail proposal for earning credit to bradc@cray.com

- Ours:
  - ✓ set up mailing list
    - ❏ anyone not receiving course mail?

  - ✓ update course web with schedule, readings

  - ❏ install Chapel prototype compiler
    - ✓ Linux (can use recycle, bicycle, or tricycle)
    - ✓ Windows (Cygwin)
    - ❏ Mac

This Week's TODOs

- **Yours**
  - mail in proposal for earning credit if you haven't
  - read Language Spec, Sections 6-13, 17
  - try Chapel installation if so inclined
  - track comments on both these things, to the extent you're willing

- **Ours**
  - put together some interesting example codes for these sections
  - finish Windows/Mac installations

The IJHPCA Paper

Three main sections:

Wishlist: What should a productive parallel language should do?

Competition: How do current languages measure up?

Chapel Overview: What is Chapel? How does it address our wishlist?