

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

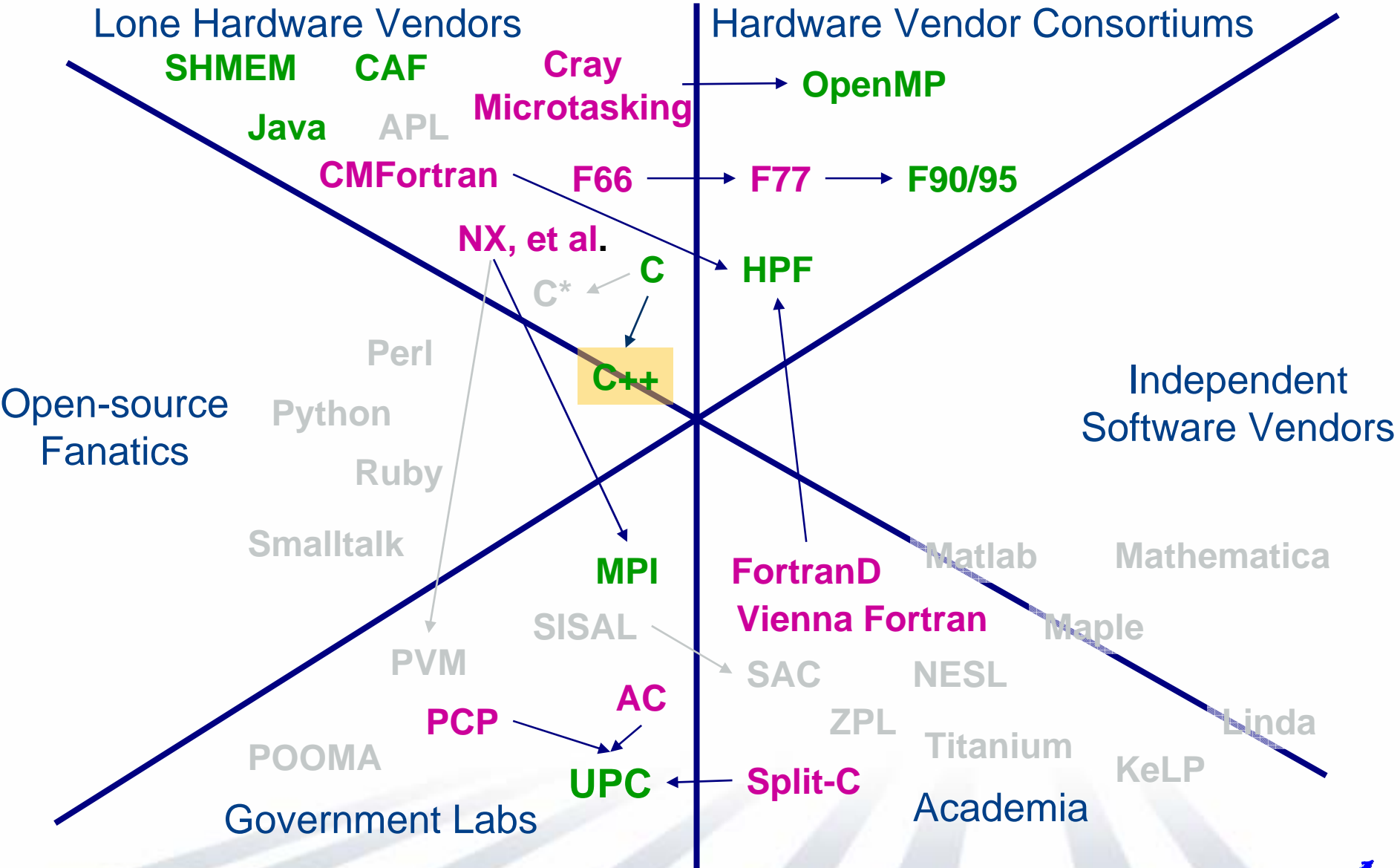
When: Wed 4:30-5:30 (typically; might check to be sure)

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

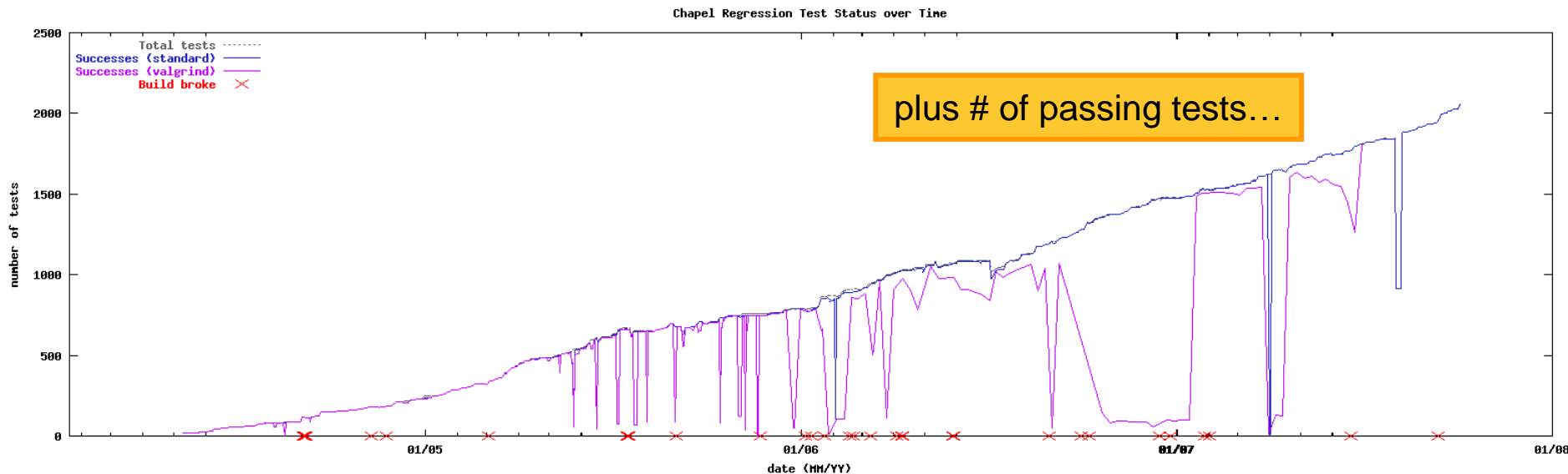
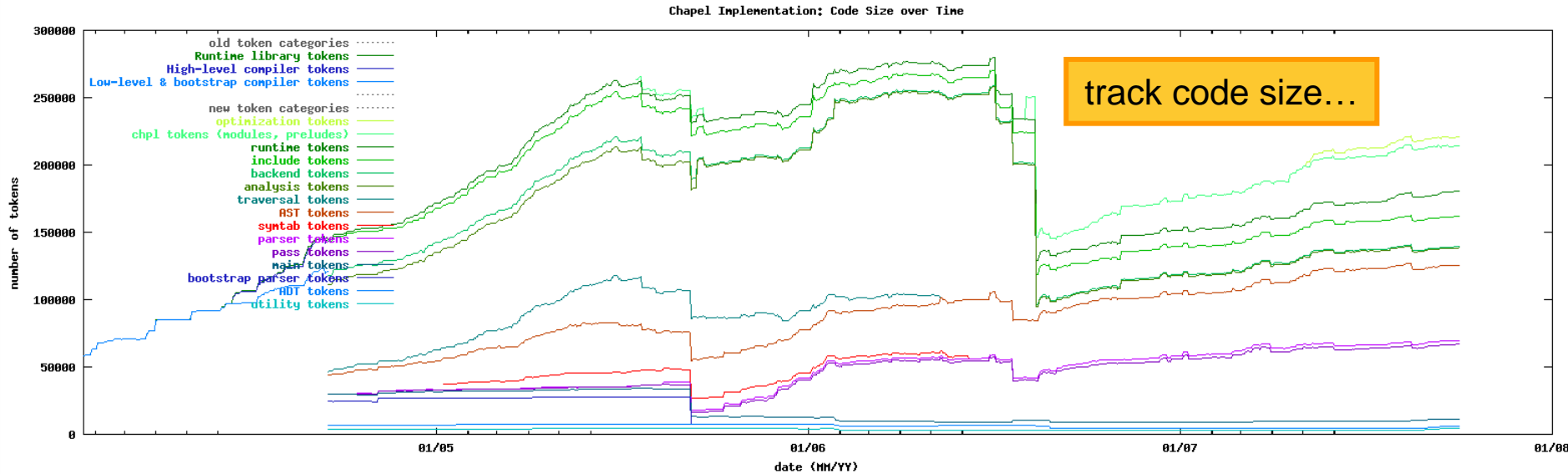
Who are you? (take 2)

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

Where do Languages Come From?

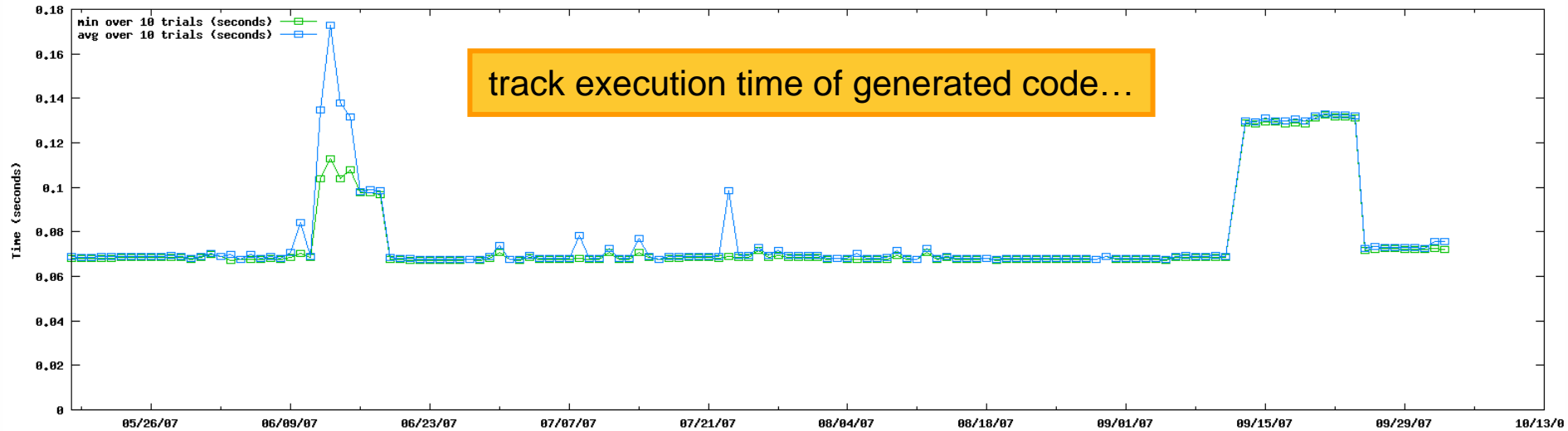


One Chapel Team Productivity Indicator...

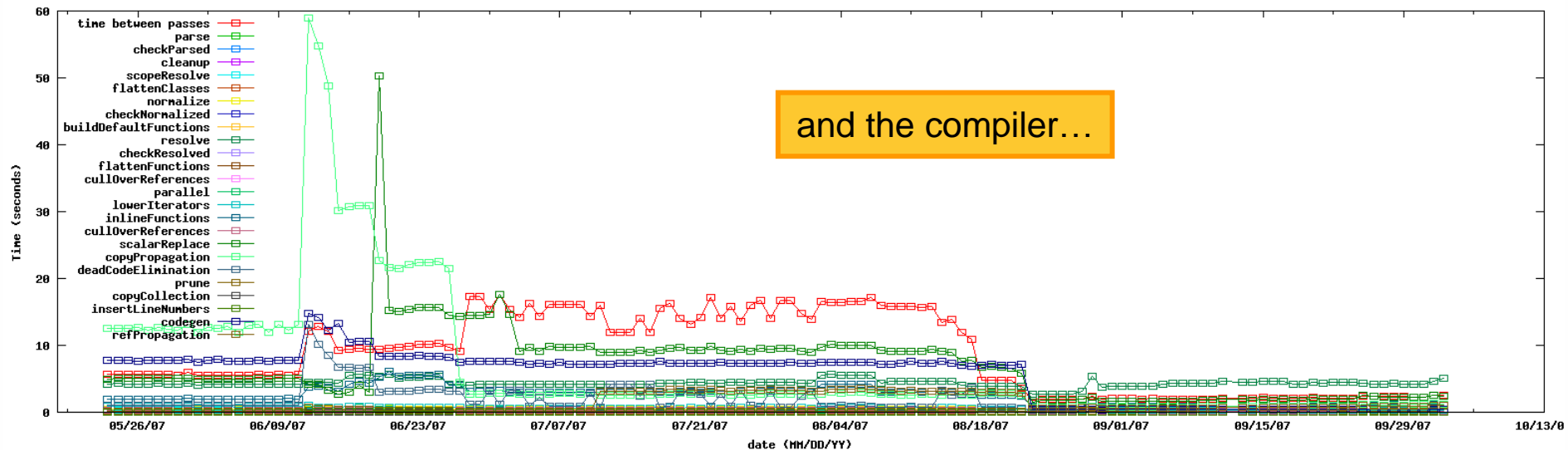


And as an additional sanity check...

STREAM Triad Execution Time over Time



Compilation Time of NRS CG



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

Date	Topics	Reading	Facilitator	Co-facilitator(s)	Presentation Materials
Sept 26	Chapel Context Seminar Organization/Goals	--	Chamberlain	--	slides
Oct 3	Chapel Motivation Language Overview	IJHPCA article Parallel Programmability and the Chapel Language	Chamberlain	--	
Oct 10	Chapel Basics: • basic types • variable declarations • expressions/statements • type conversions • function declarations/calls • modules • tuples	Language Spec , Chapters 6-13, 17	Chamberlain	--	
Oct 17	Chapel OOP & Generics: • records and classes • unions • generic classes/functions • function resolution	Language Spec , Chapters 14-16, 21	Deitz	Yinaker? (generics)	
Oct 24	Chapel Ranges, Domains, Arrays: • arithmetic, associates, sparse, sparse • domain operations • array operations • reductions and stencils	Language Spec , Chapters 18-19, 24	Chamberlain	--	
Oct 31	TBD	--	TBD	--	
Nov 7	Iterators and Promotion: • user-level semantics • use in language concepts • implementation strategies • relation to promotion	Language Spec , Chapter 20	Deitz	--	
Nov 14	Task Parallelism, Synchronization, Locality: • begin, cobegin, coforall • sync, single variables • atomic regions? • locale type, on clause	Language Spec , Chapter 22	Deitz	Kimball (synchronization)	

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?