



Communicating with Users

about HTCondor and High Throughput Computing

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HTCondor Week 2014

CHTC Services

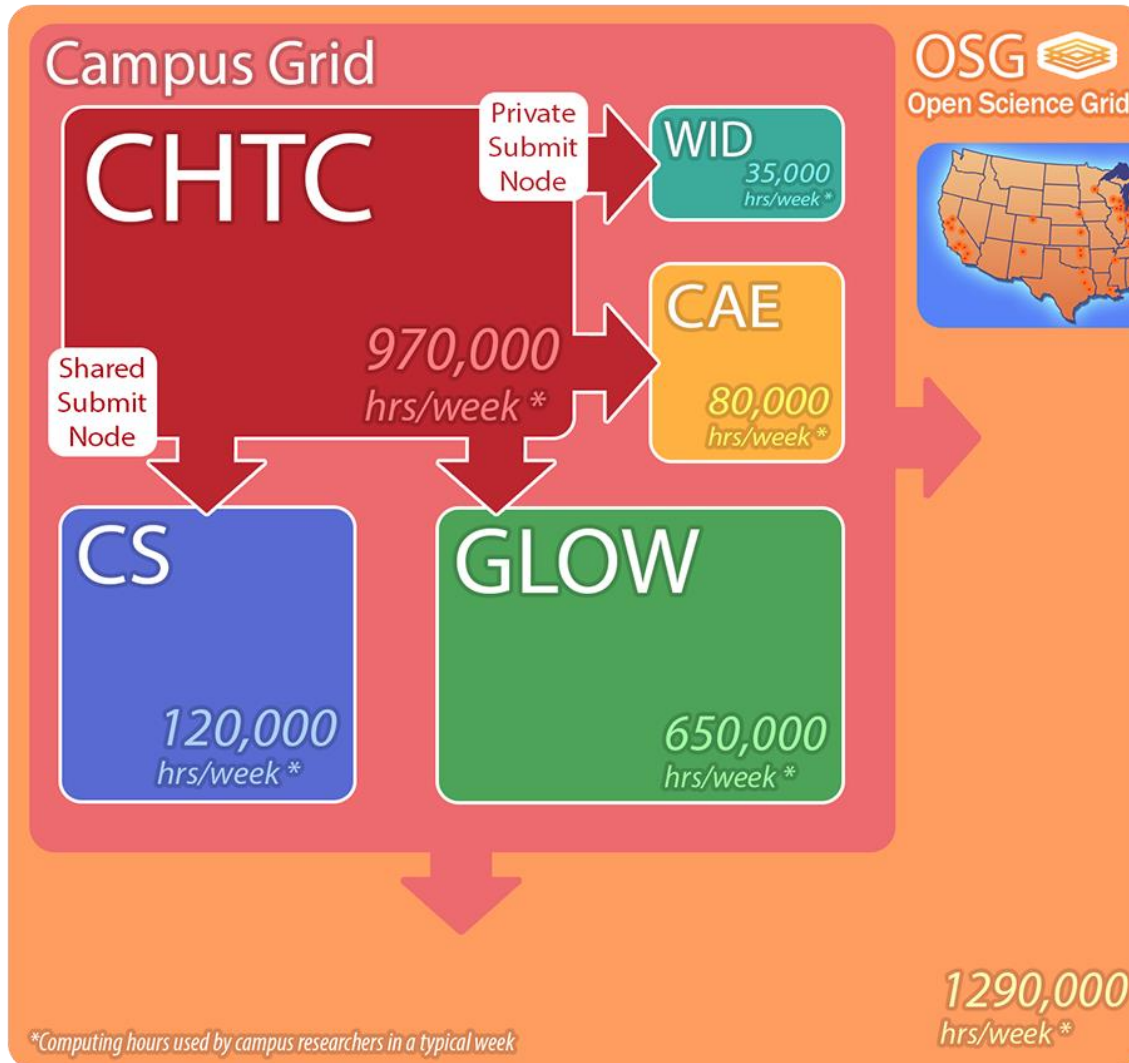
Center for **H**igh **T**hroughput **C**omputing, est. 2006

> Large-scale, campus-shared computing systems

- campus high-throughput (HTC) grid and high-performance (HPC) cluster resources
- all standard services provided free-of-charge
- hardware buy-in options *priority access*
- automatic access to the Open Science Grid (OSG)
- chtc.cs.wisc.edu



Campus HTC Resources



OSG
Open Science Grid



HTC Condor
High Throughput Computing

CHTC Services (cont.)

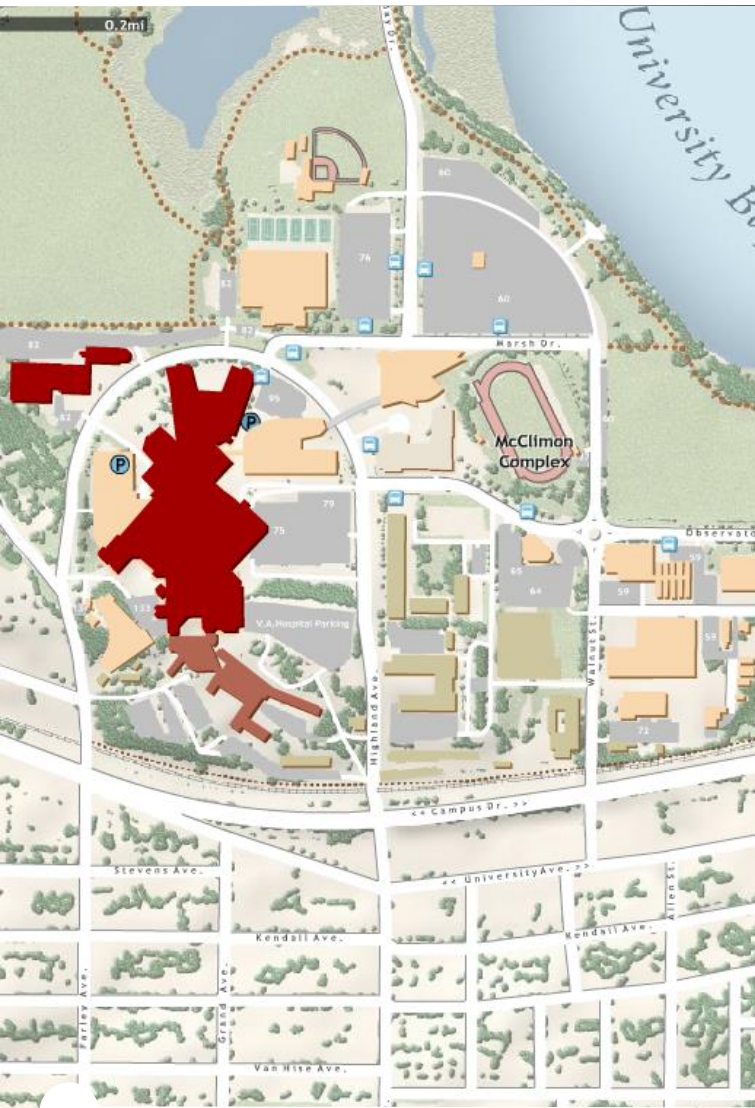
- › **Support for using our systems**
 - consultation services, training, and proposal assistance
 - solutions for numerous software (including Python, Matlab, R)
- › **Systems design/administration consulting**

CHTC Services (cont.)

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HTCondor: CHTC's R&D Arm

- › **Services provided to the campus community**
 - R&D for HTC Software
 - HTCondor, DAGMan (workflows), Bosco (“MyHTC”)
 - Software Engineering Expertise & Consulting
 - Software Testing & Security Consulting



Jul'10- Jun'11	Jul'11- Jun'12	Jul'12- Jun'13	Quick Facts
45	70	97	Million Hours Served
54	106	126	Research Projects
35	52	52	Departments
10	13	15	Off-Campus

Researchers who use the CHTC are located all over campus (red buildings)



Problem:

Large-scale computing is complex, and
not all users speak “computer geek”

Communicating *well* is hard.



Users are people.

Know Your People



Know Your People



1. What is the person's understanding of relevant terms?

RAM, CPU, node, high-throughput computing (HTC)

2. What relevant experience does the person possess?

unix command line? programming? schedulers?

3. Is the person following what you say?

Provide Clear Explanations



Cater your communication to the person.

(more difficult - but more IMPORTANT - in email)

Keep things simple.

-Avoid unnecessary details, but allude to them.

-Start with the “big picture”

Introduce new vocabulary when necessary.

Define terms. Be consistent.

-Avoid “terms of confusion”

Terms of Confusion:

“high level”



Terms of Confusion:

“high level”

Computer Geek:



... of abstraction
“bird’s eye view”
“big picture”

Many Users:



... of complexity
... of detail
“advanced”



Terms of Confusion:

“high level” alternatives

“big picture”

“Basically, ...”

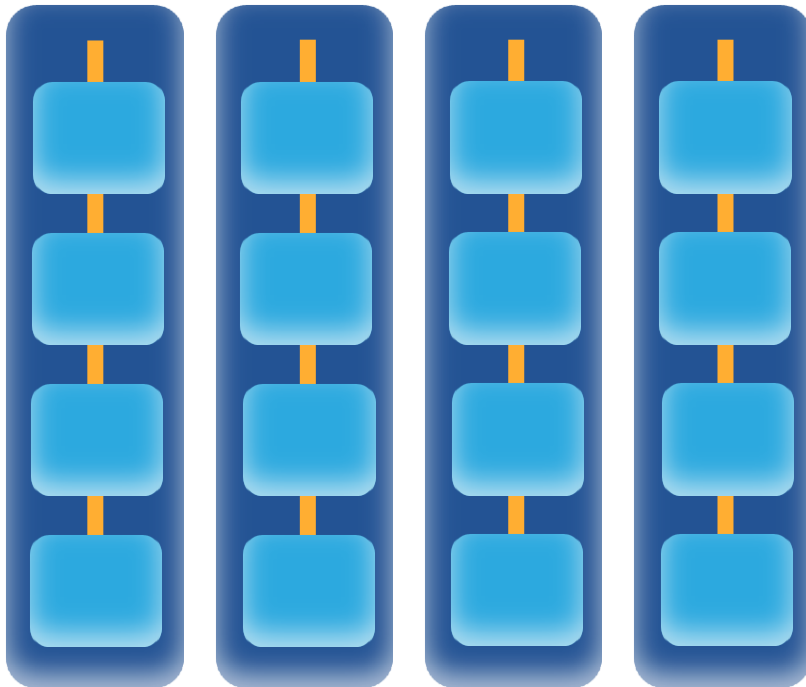
“If we step back ...”

or, just define what you mean

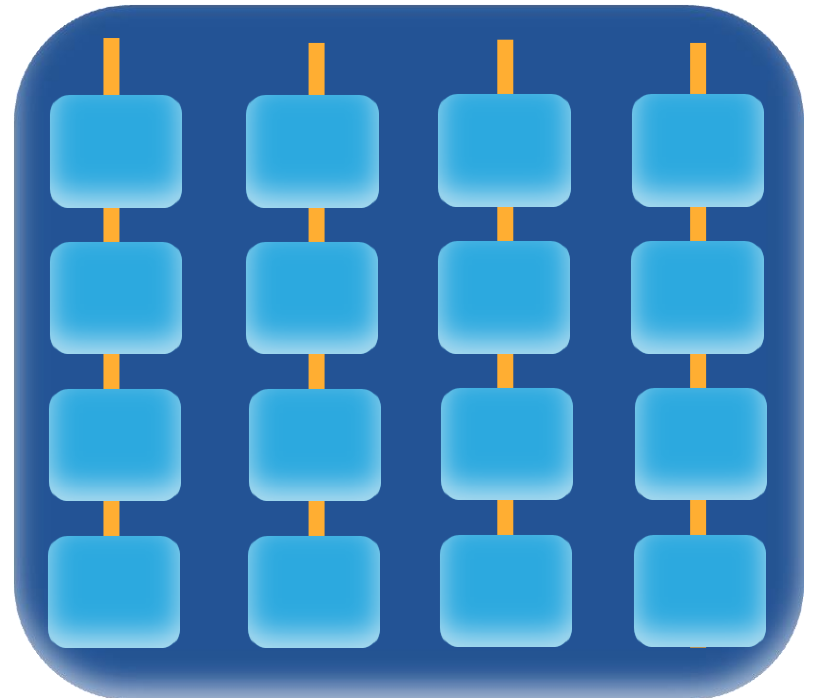
Terms of Confusion:

“parallel”, “parallelize”

high-throughput



high-performance





Terms of Confusion:

“parallel” alternatives

“independent tasks”

“separate jobs”

-versus-

“parallelize within the program”

“multi-thread”, “MP”, “MPI”

Terms of Confusion:

“cluster” – define terms

HTCondor \$(cluster)

-or-

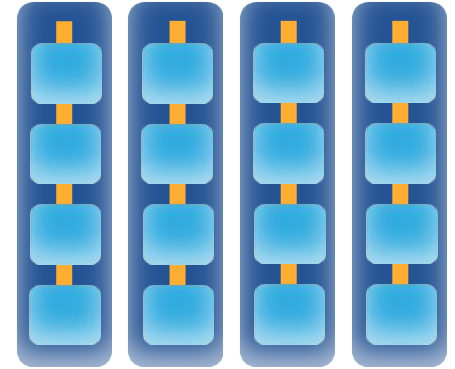
an organized set of hardware?

Terms of Confusion:

“job”

Can be used to describe:

- a program and what it does
- an item in the queue
- all items from a single submit file
- all items of the same HTCondor “cluster”
- an entire workflow (DAG)



Terms of Confusion:

“job” – define terms first

“Referring to each submit file as a ‘batch’, and each queued process as a ‘job’ ...”

“So, your first DAG node submits 10 jobs ...”

Terms of Confusion:

acronyms, abbrev'ns, and jargon

FTP

wget

SL6

LDAP

TCP

DNS

schedd

startd

Terms of Confusion:

acronyms, abbrev'ns, and jargon

– Use general terms



Terms of Confusion:

other

log

process

node

workflow



Answer the REAL Question



Identify questions that indicate confusion.
Is the user asking the *wrong* question?

Anticipate the next or ultimate question.
Is the user on the way to bigger ideas?

Focus on solutions and expectations.

In Summary ...



Know your audience! (Users are people)

Provide clear explanations, catered to the individual.

Be aware of “terms of confusion”.

Lead the user to their own expanded, accurate understanding.

And Finally ...



Communicate about Communication!

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