How I learned to Stop Worrying and Love Preemption

Condor Project
Computer Sciences Department
University of Wisconsin-Madison
Best thing about Condor?

The Community

Community as Metaphor
Two Questions

› How much more room in OSG?

› How long can jobs (effectively) run?
Not an OSG talk

Maximum: 842,796 Hours, Minimum: 139,297 Hours, Average: 512,913 Hours, Current: 139,297 Hours
3 method for performance analysis

- **Modeling**
  - Difficult in opportunistic pools
- **Simulation**
  - Difficult in opportunistic pools
- **Measurement**
Measurement

› Simply submit a ton of jobs

› All measurement via user log
User log trick:

- `+TheSite="\$(GLIDEIN_Site)"
- `job_ad_information_attrs = TheSite`
028 (4.1.0) 02/17 18:38:03 Job ad information event triggered.

- TriggerEventTypeNumber = 1
- EventTypeNumber = 28
- TriggerEventTypeName = "ULOG_EXECUTE"
- Proc = 87
- Subproc = 0
- TheSite = "Purdue"
- CurrentTime = time()
- MyType = "ExecuteEvent"
76,161 totalcpu-hours
Wall clock slowdown

![Graph showing wall clock slowdown](image-url)
How to fix?

› Mix and match

› Opportunistic for throughput

› Local resources for tail chopping
Summary

› Opportunistic cycles are still very useful

› Fairness and Throughput can be duals

› Opportunistic + dedicated very powerful