

OSG Planning Retreat 2015

# **Software**

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# Staffing

UW–Madison	Tim Cartwright	0.9	0.75 Software, 0.15 School
	Mat Selmecci	1.0	
	Carl Edquist	1.0	
	Brian Lin	0.5	+ 0.5 Release
UCSD	Edgar Fajardo	1.0	
	Jeff Dost	0.5	
	Marty Kandes	0.2	
UNL	Derek Weitzel	???	waiting on D. Swanson
BNL	John Hover	0.5	
	Jose Caballero	0.5	

# Reviewing Year 3

# Year 3 Planned Work

- **EL 7** completed most builds; still working on Java
- **PanDA**
  - Completed some packaging and testing
  - Mostly waiting on developers
- **Documentation**
  - Completed review of existing site admin docs
  - Wrote new HTCondor CE docs in new style
- **Automated tests** expanded a bit, added EL 7
- **RPM build host** updated OS, but not Koji itself

# Year 3 Surprises I

- **HTCondor CE**
  - Completed 1.0 software release
  - Worked on LSF and SGE support a great deal
  - Helped *many* installations, fixed many bugs
  - Added CE Collector to support ATLAS, etc.
  - Completed initial scalability testing
- **OSG 3.3**
  - Reviewed all packages; dropping 47 of 227
  - Planned and made some packaging changes
  - Still defining clients, metapackages, and dates

# Year 3 Surprises II

- **GUMS development**
  - Small improvements, mostly for Fermilab
  - Most rebuilds have new failures to deal with
- **StashCache**
  - Some development on HTCondor/XRootD shim
  - A little bit of easy packaging
- **On Year 3 WBS, but abandoned:** mandatory Squid, RSV review, perfSONAR packaging, VOMS 3, moving from Subversion to git, joining EPEL, ...

# Lessons from Year 3

- We are not very good at predicting Software tasks and priorities more than about 3 months out
- There is never a shortage of Software work – just often different than expected
- Backlog of useful, desired work keeps growing

# Responding to Lessons

- Strive for flexibility
  - Review tasks/priorities often, team & individual
  - Ready to redefine tasks, defer work, move tasks among team members, etc.
  - Assign routine and easier tasks to developers who are < 50%, escalate as needed
- Getting better at preserving state (JIRA) on paused projects, so that moving & resuming are efficient
- Occasionally prune backlog of stale tasks



# Planning Year 4

# Routine Work

- Routine updates to software packages
- Bug fixes to software and packaging
- Routine documentation updates
- Support
- Scalability testing
  
- Important part of what we do
- No major obstacles
- Expect roughly equal effort in all years

# Documentation

- Purge old, unused, unneeded documents  
Already identified in review; just need to list, verify, and remove
- Settle on new style templates  
As prototyped for HTCondor CE (gotten good feedback so far)
- Complete new task-based home page  
Piloting with Clemson, will use for new “CE” sites
- Update older documents in priority order

# OSG 3.3

- Initial packages in testing already
- Still working on Java-based RPMs for EL 7  
GUMS, BeStMan, VOMS Admin, and dependencies  
May not be 100% complete for OSG 3.3.0, which is OK
- Need to redesign host metapackages to fit basic and advanced use – and eliminate client
- Aiming for summer release  
June unlikely, July maybe, August maybe
- Once out, will start EOL timer on OSG 3.2 and EL 5

# StashCache

- Finish development of XRootD shim
- Finish packaging and configuration
- Support roll-out as needed

# AutoPyFactory, PanDA, etc.

- Continue working on packaging
- Working with HTCondor developers to integrate pilot job back into HTCondor itself
- Schedule seems to be driven by others, mostly in reactive mode; has been relatively little work so far

# HTCondor CE over SSH

- aka Brian's "osg-ce-bosco"
- New feature: Submit to non-HTCondor systems (e.g., PBS, LSF) over SSH
- Still being defined

# Smaller Things

- Finish IPv6 evaluation
- Transition from Java 7 to Java 8
- Move OSG software sources to git/github
- Update Koji build system to latest version
- Would still like to expand expressiveness of automated testing system... perpetually about 4 projects down on the priority list



# Top Concerns

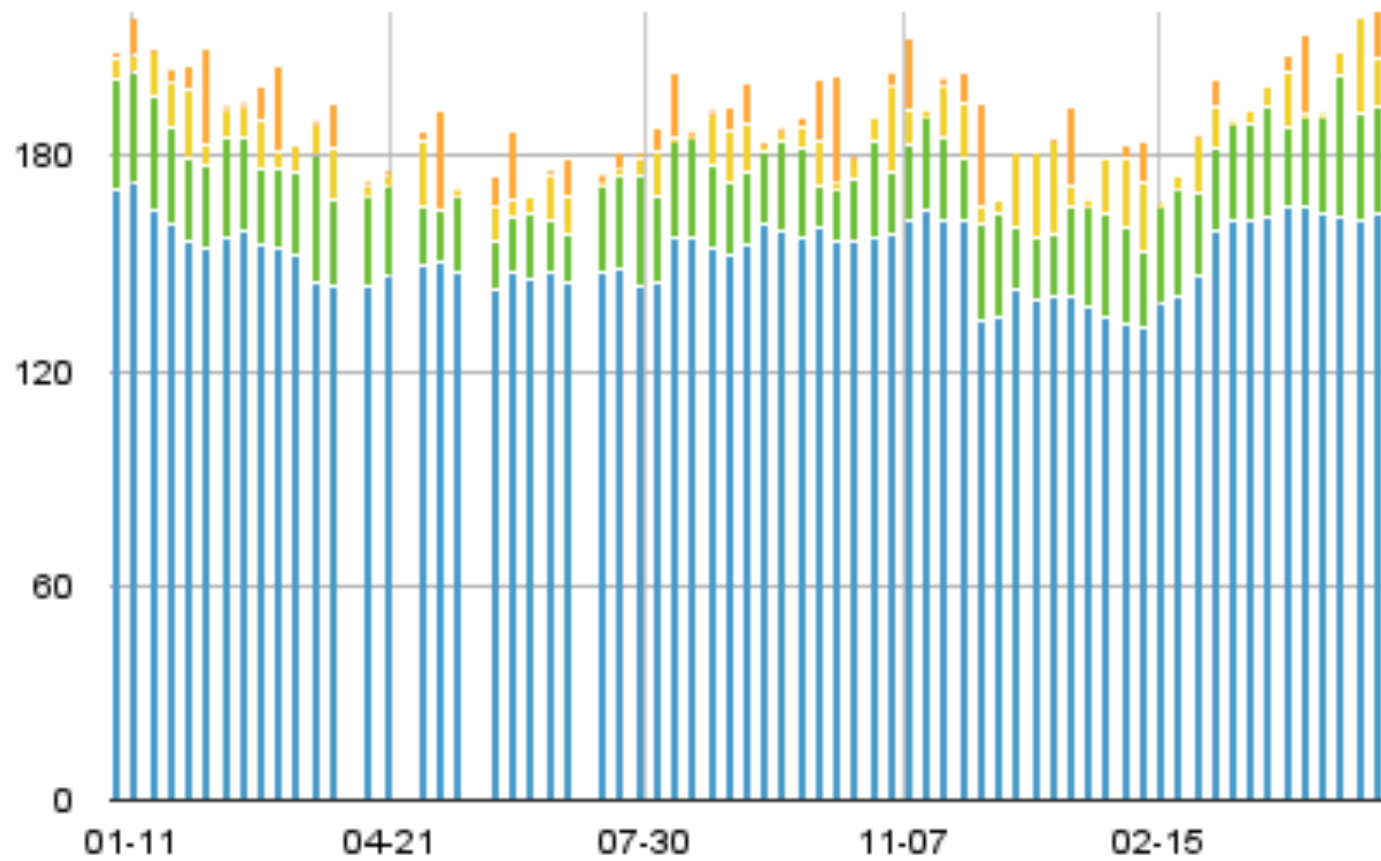
# Big SW Lifecycle Transitions

- Prototype to Production
  - HTCondor CE was labeled “production” a little early; probably did not affect total effort, mostly just perception and schedule
  - StashCache seems to be going better in this regard – longer prototyping phase, largely among “friends”
- Production to Deprecation
  - OSG = “Orphaned Software Group”? Still don’t have a long-term plan for, e.g., GUMS

# Java Software

- For routine updates, Java-based software causes the most surprises, failures, rework, etc.
- Multiple technical reasons for these issues, e.g.:
  - Dependencies change, become incompatible with software
  - Builds depend on Maven repo, but packages disappear from it
- Reducing our dependency on Java packages (BeStMan, GUMS, VOMS Admin) is good

# JIRA Backlog



# Team Composition

- Mix of (nearly) full-time people and <50% people
  - Hard to find steady feed of useful, small tasks for the <50% people
  - Hard to ensure that remote and <50% people are putting in their OSG allocated effort
- Have been trying a “hub-and-spoke” model
  - Bigger projects and tasks go to full-time people
  - Smaller and easier tasks go to <50% people
  - Somewhat successful, but not perfect