GlideinWMS

Parag Mhashilkar

Stakeholders Meeting

September 09, 2015

Overview

- Updates since last stakeholder's meeting
- Upcoming releases
- Reference slides
  - GlideinWMS Architecture
  - Quick Facts
  - Releases since last stakeholders meeting

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Highlights Since Last Stakeholders Meeting

- Releases:
  - v3_2_11: August 20, 2015
    - Focus
      - Identifying black-hole worker nodes
      - Make it easier for site admins to debug issues
      - Enable over provisioning of multi-core glideins based on user defined characteristics
      - Several bug fixes
    - Details in reference slides

  - v3_2_11_1: September 02, 2015
    - Focus
      - Fixes a critical factory configuration bug introduced in v3_2_11.
    - Details in reference slides

  - v3_3_rc3: August 13, 2015
    - Focus
      - AWS cloud related requests from HEPCloud
      - Experimental features or features that may break backward compatibility
      - Issues addressed in v3.2.11
    - Details in extra slides

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Highlights Since Last Stakeholders Meeting

- ## Communication
  - As per stakeholder request, release announcements are now sent to glideinwms-stakeholders mailing list

- ## Support
  - Working with OSG in identifying scalability limitations with its VO Frontend deployment

- ## Project Effort
  - Possibility that CMS may contribute additional effort towards the glideinWMS project

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Milestones from last time

- Better prevention of "Black Hole" workers
  - Released in v3.2.11

- Factory/Frontend Configurability
  - Scheduled for v3.3 series
    - Work in progress

- "Why is my job not running"?
  - Scheduled for v3.2.12

- Aggregate Monitoring
  - No Progress. On Hold after lost of resource (Dmytro Kovalskyi from UCSD/USCMS) in Q4 of 2014

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Upcoming Releases - Production Series (v3.2.x)

- Primary Focus of Production Series:
  - High impact bug fixes and features that do not break backward compatibility
  - Improve support for Multi Core glideins
  - Monitoring enhancements
  - Support entries O(600+)

v3_2_12 - Tentatively end of October 2015

- Improve user friendliness: "Why my job is not running?"

- Put monitoring stats from factory completed logs into glideresource classad

- RPM improvements

- Improve calculation of max requested running by making it more conservative

- Log curbs and limits hit by the frontend and factory to classads

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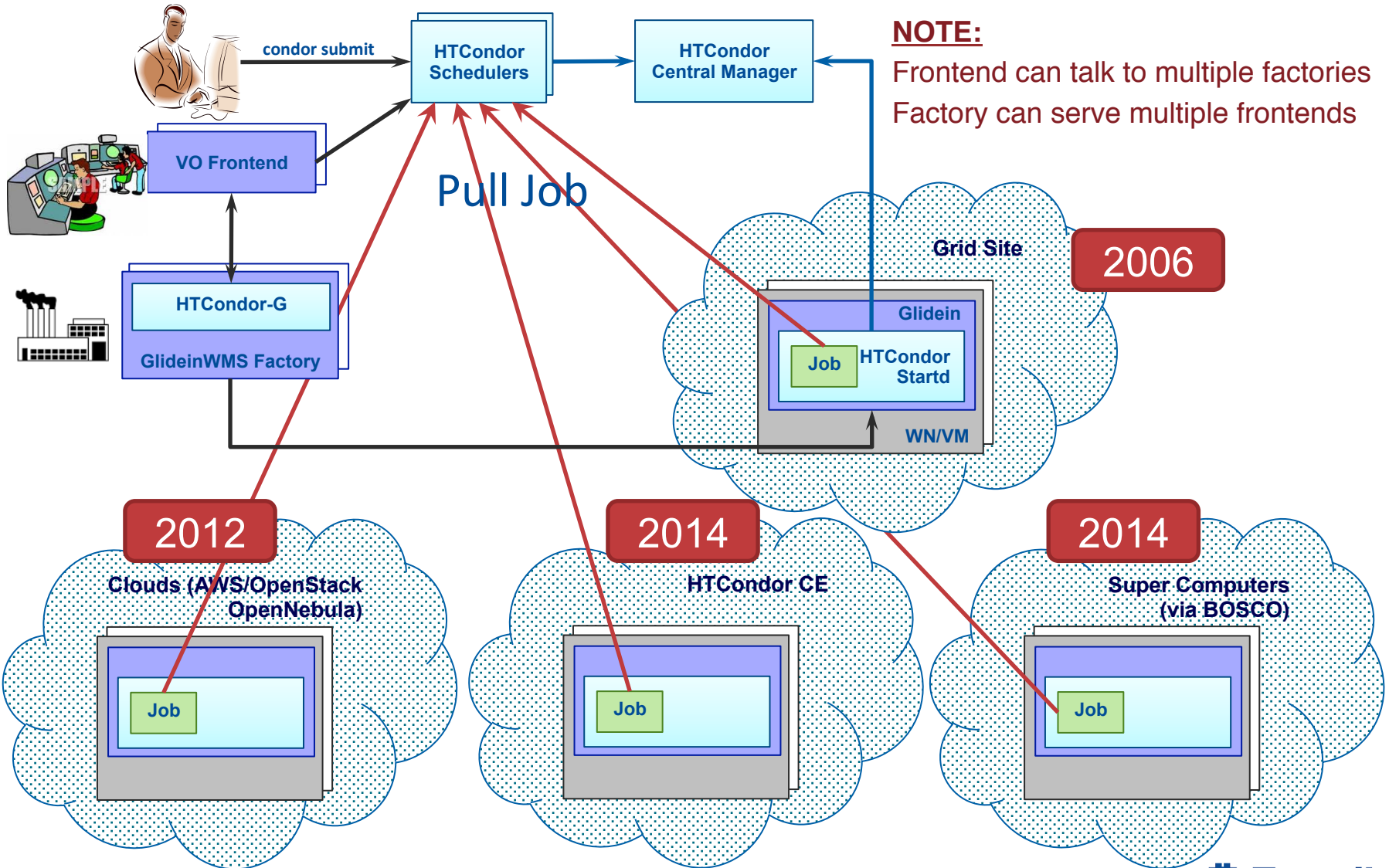# Upcoming Releases - Development Series (v3.3.x)

- Primary Focus of Development Series:
  - Production quality but some features maybe experimental
  - Support different EC2 features in GlideinWMS
  - Factory/Frontend Configurability
- Next Release: v3.3
  - Driven by stakeholder requests
  - Will be available in the form of release candidates until we reach critical mass

v3_3 - ~~Tentatively end of August 2015~~

- AWS spot pricing & AZ support - COMPLETED

- Support manageable solution for complex VO provisioning policies - IN PROGRESS

- Simplify configuration of BOSCO entries - IN PROGRESS

- Trap and forward warning for spot pricing termination in AWS to glidein

- Allow updating AWS Image settings (AMI ID) without factory/frontend reconfiguration

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Reference Slides

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GlideinWMS

condor submit

HTCondor Schedulers

HTCondor Central Manager

VO Frontend

Pull Job

HTCondor-G

GlideinWMS Factory

NOTE:
Frontend can talk to multiple factories
Factory can serve multiple frontends

2006

Grid Site

Glidein

Job   HTCondor Startd

WN/VM

2012

Clouds (AWS/OpenStack OpenNebula)

Job

2014

HTCondor CE

Job

2014

Super Computers (via BOSCO)

Job

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GlideinWMS: Quick Facts

- GlideinWMS is an open-source product (http://tinyurl.com/glideinWMS)
- Heavy reliance on HTCondor (UW Madison) and we work closely with them
- Effort:

Role	Resources	Effort (FTE)
Project Mgmt/Lead	Parag Mhashilkar (0.15 USCMS)	0.15
Development & Support	Parag Mhashilkar (0.45* SCD) Marco Mambelli (0.9 SCD + 0.1** OSG) Hyunwoo Kim (0.5 SCD) * Ramping up to 0.75 total ** Scalability improvements to OSG VO GlideinWMS infrastructure	1.95
Cloud Integration	Anthony Tiradani (0.2 USCMS)	0.2
TOTAL		2.3

Table: Current Resources & Roles

- Additional Code Contributions (Past year)
  - Jeff Dost (UCSD)
  - Brian Bockelman (OSG/UNL)
  - Mats Rynge (ISI/OSG)

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Quick Facts: Releases & Support Structure

- Releases
  - Issues tracked in redmine issue tracker
    - https://cdcvs.fnal.gov/redmine/projects/glideinwms/issues
    - Categorized and prioritized based on impact, urgency and requester
      - Issues are now associated with respective stakeholders
    - Issues are assigned based on developer's expertise and other workload
    - Roadmap for upcoming releases available in redmine (See reference slides)
  - SCM
    - All releases are version controlled and tagged
    - http://www.uscms.org/SoftwareComputing/Grid/WMS/glideinWMS/doc.prd/download.html
  - Release notes & history
    - http://www.uscms.org/SoftwareComputing/Grid/WMS/glideinWMS/doc.prd/history.html
- Support
  - Entire development team is responsible for support

Quick Facts: Project Status & Communication Channels

- Project meeting: Mondays 3-4pm
  - Technical discussions & status updates
  - Regular stakeholder participation
  - Contact Parag Mhashilkar if you need invite for this meeting
- Quarterly Stakeholders Meeting
- Project Management
  - Project Status reported monthly at CS Project status meetings

Area of Interest	Mailing Lists
Support	glideinwms-support@fnal.gov
Stakeholders	glideinwms-stakeholders@fnal.gov
Release Announcements	glideinwms-support@fnal.gov cms-dct-wms@fnal.gov glideinwms-stakeholders@fnal.gov
Future Release plans	See next slide
Discussions	glideinwms-discuss@fnal.gov
Code commits	glideinwms-commit@fnal.gov Twitter Tag: @glideinwms

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Tracking Releases in Redmine

1. Visit the redmine issues tab for GlideinWMS or the URL

2. Click custom query for stakeholder or version roadmap

Default tabs not too useful

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GlideinWMS Releases - Key Features

v3_2_11 - August 20, 2015

- Support: Error classad creation in glideins does not handle complex attributes
- Better prevention of "black hole" worker nodes by running validation scripts periodically
- Support CONDORCE_COLLECTOR_HOST for OSG sites to assist in debugging
- Glidein is not accounting all the jobs ran in a partitionable slot
- GlideinWMS should blacklist busy schedulers (CurbMatchMaking == True)
- Do not shutdown a glidein if it is in claimed-idle state
- Over provisioning Multi Core glideins based on IO characteristics of VO jobs
- RPM packaging issues
- Bug Fix: Correct behavior of CCB selection and accept sinful strings
- Bug Fix: Frontend exception when ha_mode is not initialized
- Bug Fix: ALIVEONLY reporting of GLIDEIN_Report_Failed produces incorrect INVALIDATE commands

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GlideinWMS Releases - Key Features

v3_2_11_1 - September 02, 2015

- Bug Fix: Fixed a bug introduced in v3_2_11 where file period interpreted as number instead of string

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GlideinWMS Releases - Key Features

v3_3 rc3 - August 13, 2015

- Features, bug fixes addressed in v3_2_11
- Support configuration of EC2 spot prices and AZ

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