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GlideinWMS

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Stakeholders Meeting
May 12, 2021

Agenda

- Status update
- Important changes
- Project Progress and Roadmap
- Developers' spotlight
- Stakeholders Reports or Presentations
- Roundtable
- Open discussion

Project status updates

- v3.6.5 is in OSG production (OSG 3.4 and 3.5)
- v3.7.4 soon in OSG upcoming (OSG 3.5) - production
- v3.9.2 (Python 3) soon in osg-development, then in OSG contrib and OSG 3.6 production

- Project effort unchanged
 - 2.15 FTE
 - Management and 4 developers
 - Everyone involved also in other projects: Factory Ops, HEPCloud, Jobsub, FIFE support, Landscape

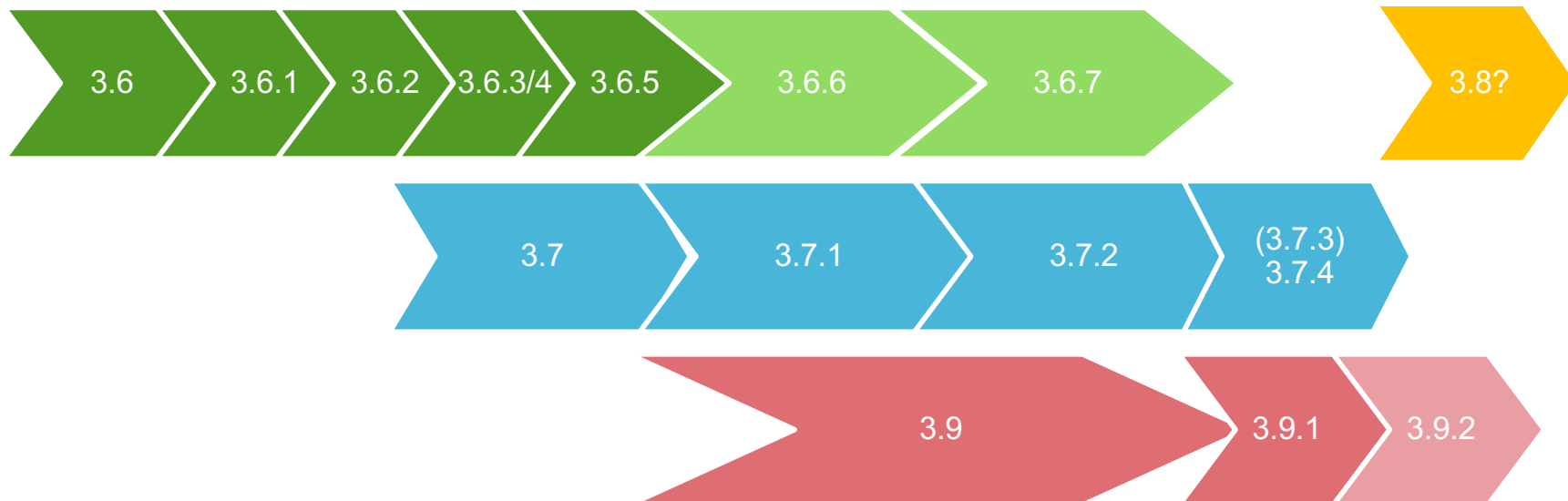
Important changes



- 3.7.3
 - Update to 3.7.4 when possible
- 3.7.3/3.7.4
 - Look for HTCondor configuration changes (.rpmnew in /etc/condor/config.d/)
 - Incompatible changes to the token configuration
- **Planned for 3.9.2**
 - Drop of BDII support

- And please review periodically your tickets/priorities
<https://cdcvs.fnal.gov/redmine/projects/glideinwms/wiki/RoadmapSummary>

GlideinWMS Releases



- 3 release series in OSG 3.5
 - Production, also in OSG 3.4, closed
 - Development – more disruptive changes (tokens, logging) [OSG]
 - Python 3, soon also in OSG 3.6 [HEPCloud]
- Fixes in the lowest possible series
- Features propagated only to greater series

Release series proposal



- Stopped development for 3.6
- 3.7/3.8 main release in OSG 3.5
 - OSG 3.5 upcoming repo
 - Python 2
 - Support GSI and JWT (with proper HTCondor)
 - How do you plan to use it?
 - GSI, Tokens (SciTokens/WLCG), both?
 - Which HTCondor version?
- 3.9 main release in OSG 3.6
 - OSG 3.5 contrib repo and OSG 3.6 (production)
 - Python 3
 - No GSI in OSG 3.6
 - Who is planning to use Python 3?
- OSG release series
 - OK not to have Python 2 in OSG 3.6?

3.7 Series Status

- 3.7.4 has been released
 - What happened with scheduled 3.7.3?
 - 3.7.3 + 2 important patches = 3.7.4
 - Change the definition of Idle for glideins in partitionable slots with multiple GPUs
 - Backward compatibility bug that slipped through 3.7.3 regression testing
- New in 3.7.4
 - Improved Token integration / GSI decoupling
 - Possible to configure factory entries to exclusively use SCITOKENS
 - Frontend groups can be configured to use SCITOKENS to pass to CEs
 - Possible to configure glideins to use IDTOKENS exclusively
 - All Frontend-generated IDTOKENS use same password by default
 - Can be configured to separate passwords for to invalidate suspect tokens

3.7.3 features and fixes

- Improved and better documented Tokens support (OSG)
 - Removed sudo requirement for Pool IDTOKENS
 - Consider tokens as regular credentials in configuration
 - Bug fixes and suggestions from OSG hackathons
- Fixed HTCondor configuration issues
 - root unable to remove Glideins
 - Incompatibility w/ HTCondor 8.9.10
- Glidein improvements (OSG, CMS)
 - Fixed security problem in HTCondor configuration
 - Enhanced search for Singularity binary (better override and configurability)
 - Unprivileged singularity in CVMFS is tested first
 - Remove LD_PRELOAD from the environment in Singularity by default
 - Fail, no fall-back when the user-provided Singularity image is missing
- Separate httpd RPM (OSG)
- Added layer to account for pilot entries in OSG_autoconf

3.7 Series Plans

- 3.7.5 plans (end of June)
 - Further improve frontend IDTOKENS integration
 - IDTOKEN refresh should use XML config for id, duration, capabilities trust_domain, etc
 - Continue de-GSI-ification efforts
 - Sensible full XML config sans GSI
 - Setup CVMFS via cvmfsexec when not available
 - Improve remote jwt based glidein monitoring
 - Lots of potential here, VOFrontends would identify problems they care about without having to look at Factory logs.
 - “\$AttributeName” expansion in Factory/Frontend configuration
 - Custom execution points for VO scripts

3.9 Series (Python 3) Status and plans

- GlideinWMS 3.9.2 being tested
 - The release candidate is now available in the OSG 3.5 development repository
 - It includes all changes from 3.7.3
 - Will be updated to include 3.7.4 patches
 - Features `check_python3_expr.py` as a standalone tool and part of the frontend reconfig operation
 - Drops support for BDII from `manageFactoryDowntimes.py` and removes LDAP dependency
 - Plan to have 3.9.3 follow and track 3.7.5

Marco Mascheroni

- Wrapped up attribute expansion feature
 - Fixed submit attributes not expanded correctly
 - Found and fixed issues on frontend configuration

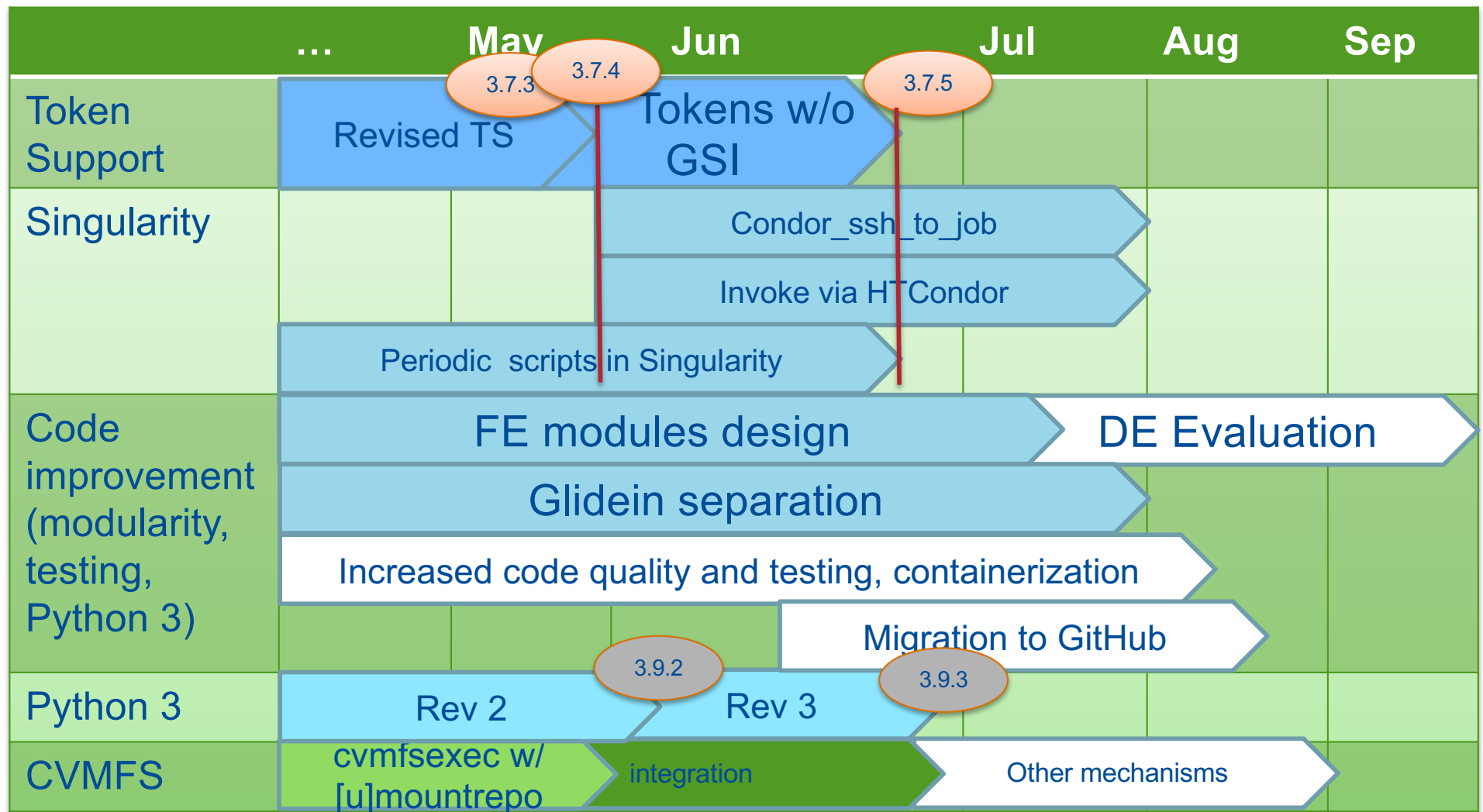
- Pilot logs monitoring

- Filebeat - Logstash - Elasticsearch - Grafana prototype deployed at CERN
- Parses pilot logs to retrieve relevant info and put them in ES (e.g.: pilot walltime, num jobs executed...)
 - Available for data mining

- Glideinmon used to show full logs
- Contributions to glideinmon to allow easy access to logs from pilot id

Pilot start time	Pilot end time	Factory	Frontend	Frontend group	Site	Entry	Pilot	Status	Node
2021-05-10 10:56:26	2021-05-11 20:26:13	CERN	CMS Global	main	T1_FR_CKIN2P3	CMSHTPC_T1_FR_CKIN2P3_cccondorce01	2412993.6	OK	ccwcondor0708.in2p3.fr
2021-05-09 21:34:47	2021-05-11 20:28:40	CERN	CMS CERN T0	CERN_condor	T2_CH_CERN	CMSHTPC_T2_CH_CERN_cet01_10	2592358.1	OK	b7g21n0042.cern.ch
2021-05-09 23:31:58	2021-05-11 20:27:25	CERN	CMS Global	main	T2_IT_Legnano	CMSHTPC_T2_IT_Legnano_t2-ccce-03	2385077.0	OK	wl-13-03.infn.it
2021-05-09 23:49:11	2021-05-11 20:27:39	CERN	CMS CERN T0	CERN_condor	T2_CH_CERN	CMSHTPC_T2_CH_CERN_cet01_10	2592643.0	OK	b7g19n0109.cern.ch
2021-05-09 21:18:57	2021-05-11 20:26:15	CERN	CMS Global	main	T2_DE_RWTH	CMSHTPC_T2_DE_RWTH_grid-ce-1-rwth	2083660.0	OK	grid-wn062.physik.rwth-aachen.de
2021-05-09 21:15:08	2021-05-11 20:23:49	CERN	CMS Global	main	T2_US_UCSD	CMSHTPC_T2_US_UCSD_gw6	2585157.3	OK	mth-epyc7662-6.t2.ucsd.edu
2021-05-09 23:53:54	2021-05-11 20:25:44	CERN	CMS CERN T0	CERN_condor	T2_CH_CERN	CMSHTPC_T2_CH_CERN_cet02_10	2475584.0	OK	b7g26n0836.cern.ch
2021-05-09 08:50:11	2021-05-11 20:22:51	CERN	CMS Global	main	T1_RU_JINR	CMSHTPC_T1_RU_JINR_ce03	2584281.4	OK	wma203.jinr.ru
2021-05-11 20:01:15	2021-05-11 20:21:29	CERN	CMS Global	main	T2_IT_Rome	CMSHTPC_T2_IT_Rome_cmsrm-cream01	2688551.0	ERROR	cmsrm-wn053.roma1.infn.it
2021-05-09 23:45:40	2021-05-11 20:25:22	CERN	CMS CERN T0	CERN_condor	T2_CH_CERN	CMSHTPC_T2_CH_CERN_cet02_10	2475528.0	OK	b7g26n0801.cern.ch
2021-05-09 21:06:06	2021-05-11 20:24:20	CERN	CMS CERN T0	CERN_condor	T2_CH_CERN	CMSHTPC_T2_CH_CERN_cet02_10	2475019.0	OK	b7g21n0535.cern.ch
2021-05-10 00:08:44	2021-05-11 20:25:08	CERN	CMS Global	main	T2_UK_London_IC	CMSHTPC_T2_UK_London_IC_ceprod03	2082047.6	OK	wj11.grid.hep.ph.ic.ac.uk
2021-05-10 00:33:29	2021-05-11 20:25:19	CERN	CMS Global	main	T2_UK_London_IC	CMSHTPC_T2_UK_London_IC_ceprod03	2082595.6	OK	wj11.grid.hep.ph.ic.ac.uk

Development Roadmap overview



- Dennis Box
- Bruno Coimbra
- Marco Mambelli
- Marco Mascheroni
- Interns
- Not assigned



Roadmap in detail – Plans for 3.7.5 (mid Jun)

<https://cdcv.s.fnal.gov/redmine/projects/glideinwms/roadmap>

- Ease operations
- Use of token authentication (OSG) – Dennis
 - Support and cleanup / refactoring of credentials handling
 - No errors if no GSI
- Singularity support (CMS/OSG/Fermilab) – Marco Mambelli
 - Work on sites without Singularity or CVMFS installed – Dave, Namratha
 - Simplified code by Singularity invocation via HTCondor
 - Simplified troubleshooting by allowing ssh to job in Singularity
 - Ongoing collaboration w/ OSG – Mats
- Containerization (OSG/Fermilab/FactoryOps)
 - Factory and Frontend in containers
 - Ongoing collaboration w/ Fermilab/OSG/FactoryOps – Shreyas, Diego

Roadmap: modularity and code quality (HEPCloud/OSG)

- Improvements of Python 3 version - Bruno
 - Better code structure and packaging
 - Remove additional obsolete code
- Glidein as 3rd component (DE, containerization) – Marco Mmb
 - Separate packaging
 - Easier and more robust support for custom scripts - Bruno
- Improve modularity of Frontend (DE) - Marco Mambelli
 - Configuration
 - Business logic <https://drive.google.com/file/d/1KTThCsx4ZGjxwqe-gfZtonT3eGJamPed/view?usp=sharing>
 - Communication w/ Factory
- Integration with HEPCloud/DecisionEngine (HEPCloud/CMS)
- Expand, simplify and automate testing

Summary

- Development focus
 - Tokens

- Expect more development also for
 - Glideins
 - Singularity
 - Frontend modularity

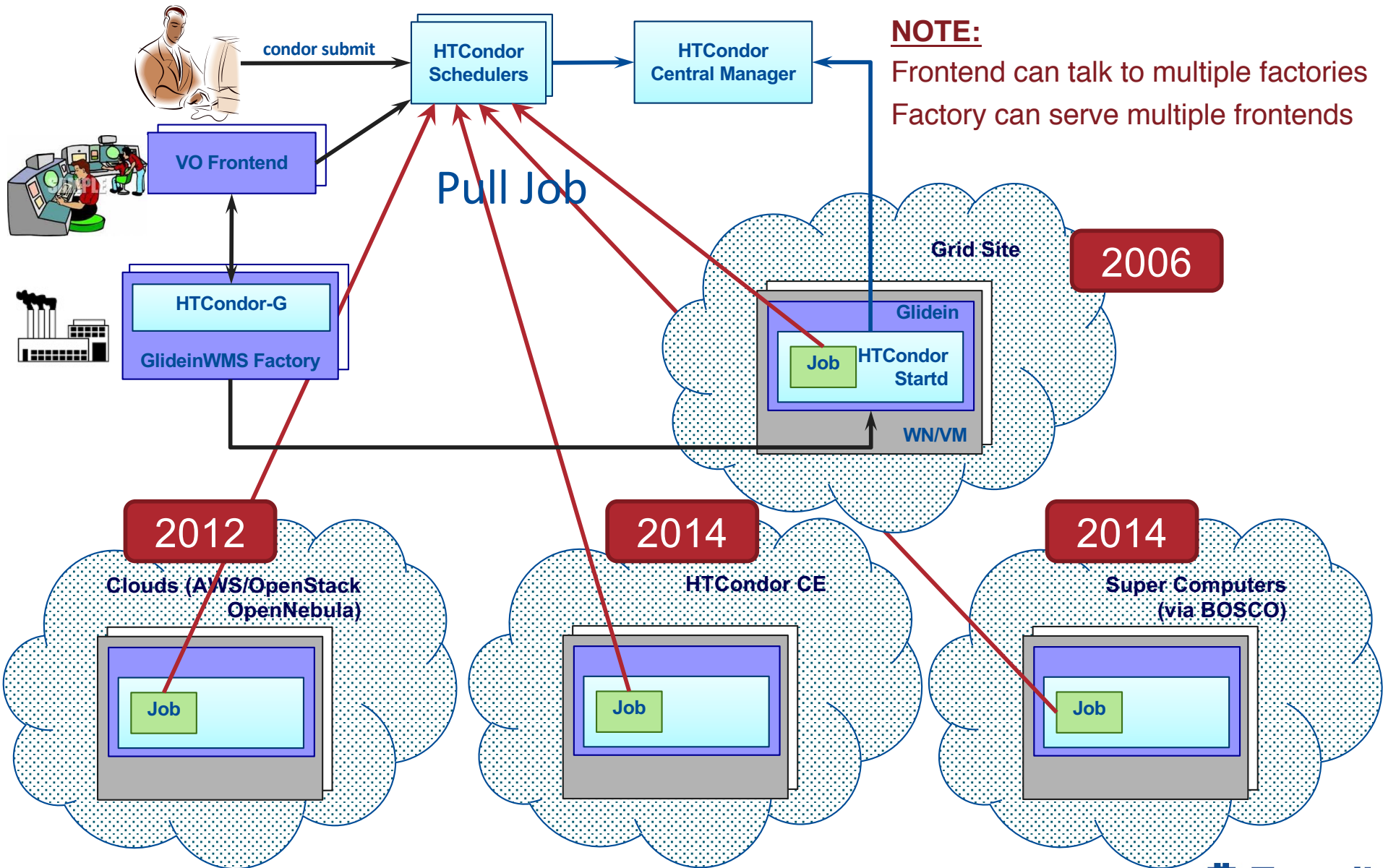
Extra Slides

Reference Slides

Move to single user Factory

- Starting from release v3.5
- All Glideins will run using the factory user, no more separate users per-VO
 - Currently different VOs (Frontend groups) can use different users to improve isolation
- It is safe
 - The HTCondor team assured us that once we remove Globus GRAM support, the other Gridmanager clients cannot decide which file to retrieve from the Factory (it is HTCondor on the Factory deciding what to send), so will be safe to run as a single user
- The directory structure will remain the same
 - Only the ownership will change
 - Your log files will be in the same place
- Migration:
 - GWMS will provide instructions and tools to ease it: change the files ownership, ...
 - if you use HTCondor < 8.7.2 you can upgrade GWMS when convenient for you
 - if you need HTCondor \geq 8.7.2 (including 8.8) we recommend to upgrade
 - but if you want to delay the change to 3.5 you can still do that if you are comfortable in using the glideinwms-root-switchboard RPM that we built and tested, but is not supported by OSG.

GlideinWMS



Quick Facts: Releases & Support Structure

- Releases
 - Issues tracked in redmine issue tracker
 - <https://cdcvns.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://glideinwms.fnal.gov/doc.prd/download.html>
 - Release notes & history
 - <http://glideinwms.fnal.gov/doc.prd/history.html>
- Support
 - Entire development team is responsible for support

Quick Facts: Project Status & Communication Channels

- Project meeting: Wednesdays 10 – 11 am
 - Technical discussions & status updates
 - Regular stakeholder participation
 - Contact Parag Mhashilkar if you need invite for this meeting
- Stakeholders Meeting every two months
- 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

Tracking Releases in Redmine

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

2. Click custom query for stakeholder or version roadmap

The screenshot shows the Redmine interface for the glideinWMS project. The 'Issues' tab is selected, displaying a list of tickets. A search bar at the top right contains 'glideinWMS'. On the right sidebar, the 'My custom queries' section is visible, with 'OSG Tickets' highlighted. Two green callout boxes provide instructions: the first points to the 'Issues' tab in the navigation bar, and the second points to the 'OSG Tickets' custom query in the sidebar. The main table lists various tickets with columns for ID, Tracker, Target version, Status, Priority, Subject, Assignee, and Updated.

#	Tracker	Target version	Status	Priority	Subject	Assignee	Updated	Category
2409	Feature	v3_2_10	New	High	Support validation scripts to run periodically (not just at pilot start)	Marco Mambelli	05/13/2015 01:26 PM	OSG VO
6897	Bug	v3_2_10	Feedback	High	Partitionable glideins not accounted for correctly	Parag Mhashilkar	05/12/2015 04:42 PM	OSG
7927	Feature	v3_2_10	New	High	Per-frontend unique idle job counts	Marco Mambelli	04/13/2015 04:16 AM	OSG
4904	Feature	v3_2_10	Assigned	Normal	Specify a default for GWMS_XSLT_PLUGIN_DIR	Marco Mambelli	04/01/2015 01:43 PM	OSG
4846	Feature	v3_2_10	Assigned	Normal	Include GWMS_XSLT_PLUGIN_DIR setting in generated {factory,frontend}_startup	Marco Mambelli	04/01/2015 01:42 PM	OSG
7807	Feature	v3_2_10	New	Normal	Support CONDORCE_COLLECTOR_HOST for OSG sites	Parag Mhashilkar	04/13/2015 03:21 AM	OSG
8437	Feature	v3_2_10	New	Normal	Split entry configuration from main factory config	Parag Mhashilkar	04/27/2015 12:13 PM	OSG, CMS
4587	Bug	v3_2_x	Assigned	Normal	OSG: Automate / fix HTCondor-CE issues	Burt Holzman	02/03/2015 02:44 PM	OSG
6732	Bug	v3_2_x	New	Normal	Glideins report 100% success rate even if startd fails to start/run a matched job.	Marco Mambelli	03/04/2015 04:47 PM	CMS, OSG
3203	Feature	v3_2_x	Assigned	Normal	OSG: condor analyze	Burt Holzman	02/03/2015 02:44 PM	OSG