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GlideinWMS

Parag Mhashilkar

Stakeholders Meeting

March 07, 2018

Overview

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

GlideinWMS Roadmap

- Medium term (2018 – mid 2019)
 - Keep up with the scalability requirements
 - Investigate and incorporate new technologies like pandas dataframes, numpy, etc
 - Outsource GlideinWMS functionality to the HTCondor
 - Work with the HTCondor team to provide some of the frontend functionality natively through HTCondor
 - Leaner & modular Frontend
 - Adapt to changes/introduction of Acquisition Engine by HTCondor
 - Dependent on the work that will be done in HTCondor in future
 - Very thin GlideinWMS factory
 - Support for new HPC sites with stricter policies (e.g. no outbound connection except gateways, MFA)
 - Depends on support from HTCondor. Discussion with the HTCondor team next week.
 - Monitoring Modernization
 - Retire GlideinWMS monitoring pages
 - Move to grafana/graphite/elastic search based solution

GlideinWMS Roadmap

- Long term (> mid-2019)
 - Moving to Decision Engine (DE)
 - Replace frontend with the Decision Engine
 - Make Glidein as a service capable of talking to multiple WMS middleware/frameworks

GlideinWMS: Current Focus

- Improve stability
 - More automated testing & CI (pylint, pythoscope, futurize, unittest ...) is ongoing focus
 - Developer's test infrastructure to connect to Factory ITB services for scale testing
- Minimize wastage of resources from over-provisioning
 - Consider site physiology
 - Actively follow the requests and adapt as the request goes down
 - Solution addressed in phases
 - First phase of the solution is available in v3.2.21
- Security
 - Adapt to sites with tighter security restrictions
 - Support for shorter proxy lifetime
 - Impacts how we determine lifetime of a glidein

Highlights Since Last Stakeholders Meeting

- Announcements
 - New Hire: Lorena Lobato Pardavila started February 05, 2018
 - Full time of the project
- Communication
 - Regular participation of CMS and Factory Operations in the weekly GlideinWMS meetings
 - Marco Mambelli regularly attends CMS SI and CMS-HTCondor meetings
 - Helping the project get more insight into day-to-day operations and the short and mid-term direction of CMS
 - **Do we want to have more frequent stakeholders meeting?**
 - **How can we further improve communication**
 - **Should we participate in any other meetings?**
 - **Communicating priorities?**
- Support
 - Frontend performance issues identified by the Glow frontend
 - Fixed in v3.2.21

From Previous Stakeholders Meeting (12/07/2017)

- Addressed in v3.2.21
 - Factory monitoring issues
 - Pull request from Brian Lin (auto proxy renewal script)
 - Latest singularity scripts and support for unprivileged singularity in v3.2.21
- ICE Cube's pyglidein
 - Meeting with ICE Cube group to understand pyglidein
 - Needs more investigation on reverse gap and how to integrate in GlideinWMS
- Code modernization
 - Tools: pylint, pep8, futurize, pythoscope, unittests
 - Nightly checks using some through Jenkins CI
 - This is an ongoing process
- Singularity – Long term solution
 - Started discussions with OSG and CMS
- Migration to github
 - We had internal discussions with Marc Mengel who is maintaining redmine
 - We need to maintain a mirror in redmine
 - Switching to github as primary repo needs some work
 - Official site is already mirrored in github
 - Paying close attentions to pull requests
- **More frequent releases (1 release every 2 months)**
 - **Time between v3.2.20 and v3.2.21: 12 weeks**

Releases Since Last Stakeholders Meeting

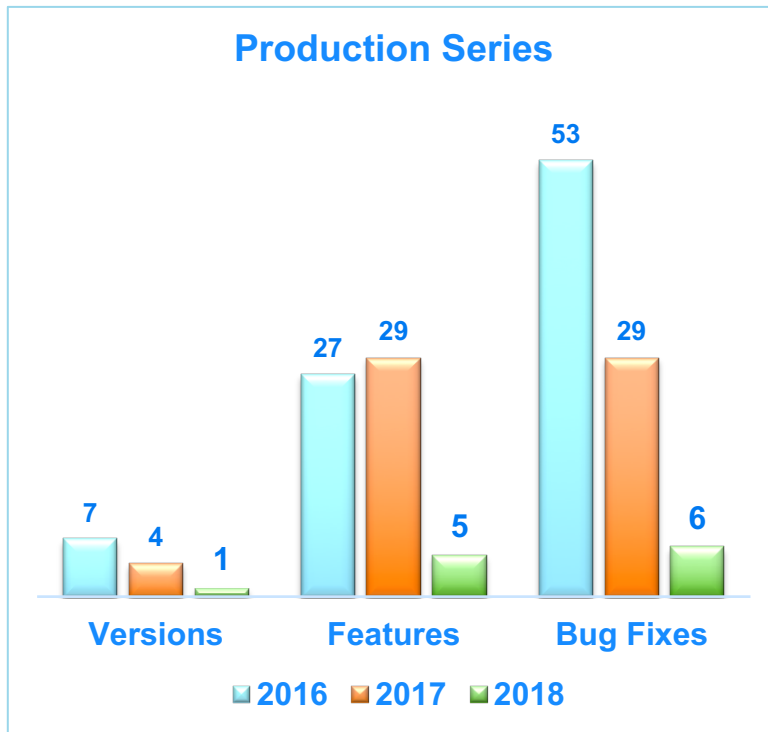
- Releases:
 - V3.2.21: February 08, 2018
 - Balancing glidein pressure to sites that are aliases or Meta-Sites (CMS)
 - Frontend automatically requests the removal of unused glideins (CMS)
 - Support of unprivileged singularity and new singularity scripts (CMS+OSG)
 - Automatically renewal of VO proxies (OSG)
 - Improvements to the factory monitoring (Factory Ops)
 - Bug fixes
 - Bug Fix: Fix fork.py behavior (affects frontend performance for very busy frontends)
 - Bug Fix: Sanitize content of MJF attributes
- Detailed Release Notes:
 - <http://glideinwms.fnal.gov/doc.prd/history.html>
 - <http://glideinwms.fnal.gov/doc.dev/history.html>

Current Production Deployments

- Factories
 - UCSD Factory: v3.2.21-2 (02/07/2018)
 - IU Factory: v3.2.19 (05/30/2018)
- Frontends
 - CMSG-v1_0: v3.2.19
 - CMS_T0-Frontend: v3.2.19
 - UCSD-CMS-Frontend: v3.2.16
 - chtc2 v3.2.20-2
 - glidein-unl-edu_OSG_gWMSFrontend: v3.2.20
 - gpfrontend01-fnal-gov_gWMSFrontend: v3.2.19
 - nanoHUB-v3_2_3: **v3_2_3**
 - osg-flock-grid-iu-edu_OSG_gWMSFrontend: v3.2.20
 - osg-ligo-1-t2-ucsd-edu_OSG_gWMSFrontend: v3.2.19
 - uclhc-fe-1-t2-ucsd-edu_OSG_gWMSFrontend: **v3.2.15**

Release Stats

Year	Production Series	Development Series
2016	3.2.12 – 3.2.16	3.3 – v.3.3.1
2017	3.2.17 - 3.2.20	3.3.2
2018	3.2.21	-



- High Priority Tickets
 - 2017
 - CMS: 6
 - OSG: 3
 - Factory Ops: 3
 - 2018
 - CMS: 3
 - OSG: 1

Upcoming Releases – Milestone for Series v3.2

- Primary Focus in the Production Series:
 - High impact bug fixes and features that do not break backward compatibility

v3_2_22 – ~end of April

- [17417] Improvements to service reload executed in rapid successions (Factory Ops)
- [2531] Monitoring: Frontend to store number of job restarts (FIFE)
- [19293] Frontend group's glidein request to track job requests (CMS)
- [17824] Replacement for condor_switchboard
- [17102] Handle proxies with limited/short lifetime (CMS)
- [19193] Add a resource_slot that adds CPUs to the system but is in the main slot (CMS)
- [19160] Add entry monitoring breakdown for meta-sites (CMS, Factory Ops)
- [18869] Review factory and frontend tools like glidein_off (CMS, Factory Ops)
- [18301] Code modernization - getting ready for Python 3

Upcoming Releases - Milestone for Series v3.3

- Primary Focus in the Development Series:
 - Production quality but some features maybe experimental
 - Milestones and timelines expected to be primarily driven by the HEP Cloud Decision Engine requirements
- Plan for moving v3.3 series to production in 2018
 - Final v3.3 release becomes v3.4

v3_3_3

- Features/Bug fixes released in 3.2.21
- Manage HPC jobs that spawn multiple nodes (currently running via work-around and not correctly counted in provisioning)

Stakeholders Concerns

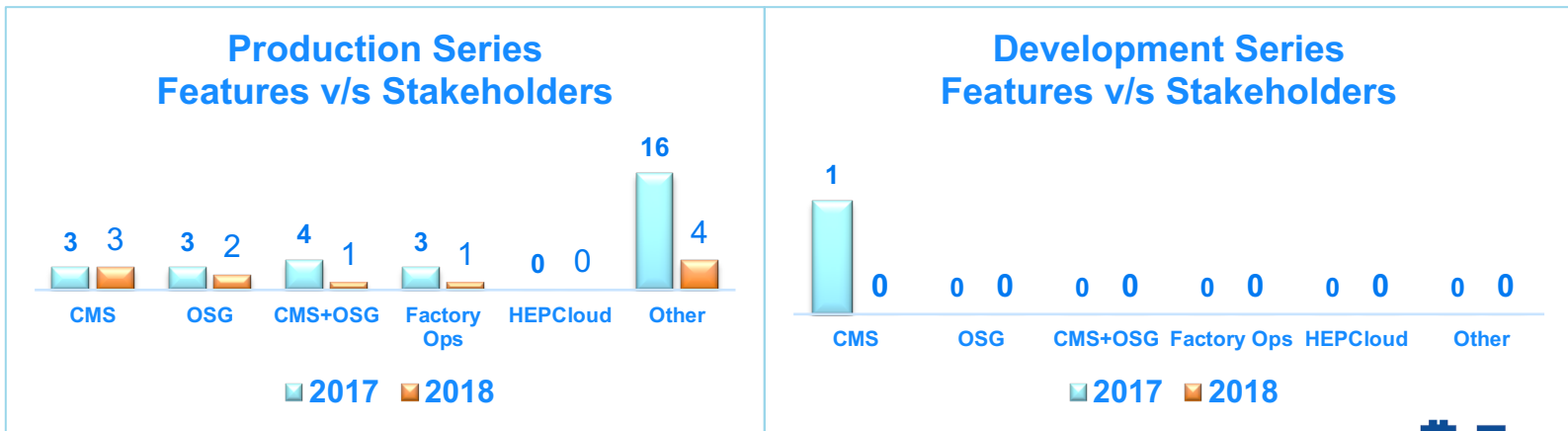
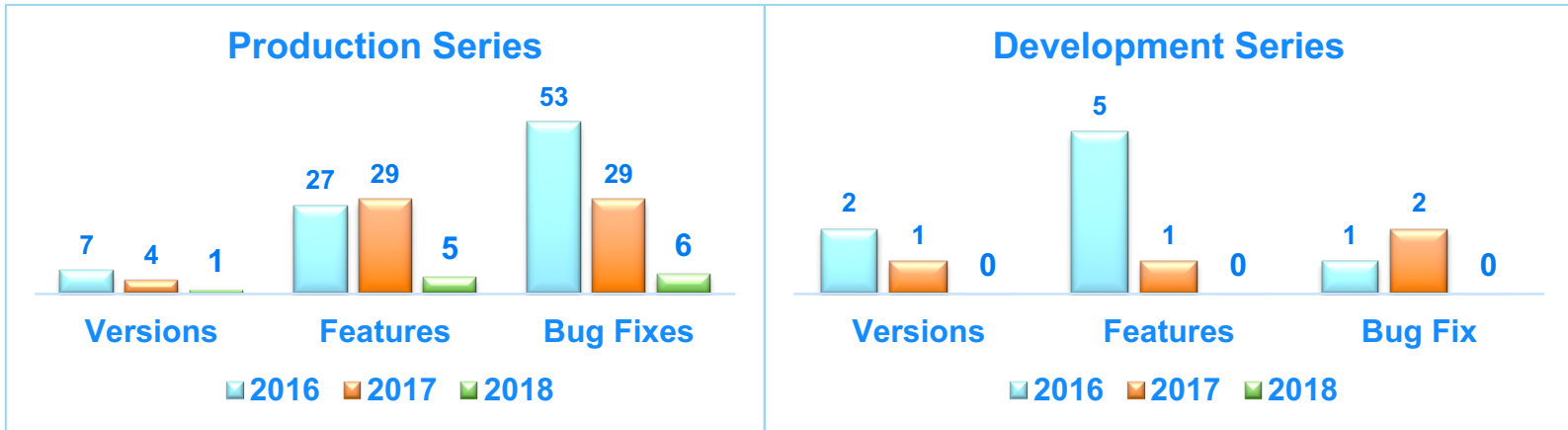
- Not a lot of improvements or work against the set of problems CMS has
 - Features/bug fixes released since past several releases have been driven by priorities set by James and Antonio. How can the project help here?
- Several complains from factory operations
 - Recent changes to monitoring and requests from Factory Ops, how can we help here?
- Roadmap
 - Does the current roadmap in these slides give stakeholders enough insight into the direction of the project?
 - What input do stakeholders have to the roadmap?
 - Updated roadmap will be available to stakeholders by end of next week and announcement will be sent to the stakeholders mailing list
- Stakeholders Input
 - Do we want to have more frequent stakeholders meeting?

Questions/Comments

Reference Slides

Highlights Since Last Stakeholders Meeting

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2017	3.2.17 - 3.2.20	3.3.2
2018	3.2.21	-



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
- 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