

US ATLAS Token Use at the and the move to OSG 3.6

Fred Luehring

OBO the US ATLAS Computing Project
Joint ATLAS-CMS Session Friday March, 2022

ATLAS Current Situation

- OSG 3.6 test queues are running successfully at AGLT2, BNL, and MWT2.
- We have confirmed that all jobs sent by Harvester have tokens.
- The current version of OSG 3.6 has no known show stoppers.
 - Brian Lin (OSG) tells us that 3.6 is ready.
 - AGLT2, BNL, and MWT2 are ready to deploy OSG 3.6.
- Yesterday we received the welcome news from Maarten Litmaath (LCG) and Petr Vokac (ATLAS ADC) that the token server infrastructure is running stably and that the support level is sufficient with a token lifetime of 96 hours.
 - Our current maximum VOMS proxy lifetime is also 96 hours.
- **This allows us to proceed with the OSG 3.6 update.**

ATLAS Going Forward

- The previous OSG version (3.5) is scheduled to reach EOL on May 1.
 - The EOL date was changed from February 28 which proved to be impractical.
- **We expect to start transitioning the CEs to OSG 3.6 next week.**
 - Not all US ATLAS sites are ready to deploy OSG 3.6 Immediately.
 - The sites that are ready to deploy have been working on other run 3 preparations while waiting for the token server stability/support sign off and still may take a few weeks to update.
- We plan to proceed cautiously with the expectation that there will be additional bumps in the road.
- I believe that ATLAS and CMS have similar needs from the LCG token infrastructure and OSG token software stack. We should touch base occasionally and work together with LCG/OSG to get what is needed.

HTCondor Schedule to Drop X.509 Support

- HTCondor is used widely in ATLAS as a queuing system and while for US ATLAS dropping X.509 support is likely OK, updating to X.509-free HTCondor versions during data taking (currently November) makes people nervous.
 - A site using HTCondor for queuing must update every compute server which requires draining the queue.
- There is an unofficial desire within ATLAS to move the date to the end of January or later.
 - This allows the upgrade after the holidays and with the beam off.
 - About 100 ATLAS queues use HTCondor and the non-US sites do not use the OSG software stack so this update will be the first time they are dependent on tokens with no X.509 fallback.

Backup

OSG Token Transition and US Site Plans

- Key milestones in OSG timeline that impact US ATLAS sites (see e.g. FaHui's [presentation](#) at OSG workshop in October)
 - End of Feb. 2022: [OSG 3.5 EOL](#) - end of support for GCT and X.509
 - Sep. 2022: [HTCondor 9 EOL](#) - no GCT dependencies in HTCondor
- Where are we at this point?
 - Harvester job submission with tokens has been tested at MWT2 and BNL
 - As of end of December, BNL has updated all of its HTCondor-CEs to token-capable version and migrated ATLAS Tier 1 batch to HTCondor 9.0.6
 - Other US sites have updated as well and are in varied states of readiness
 - Comment: OSG testing repo already provides osg-scitokens-mapfile with default ATLAS token mapping <https://opensciencegrid.atlassian.net/browse/SOFTWARE-4590>
- We are making a push for site transitions to OSG 3.6 as part of our Run 3 readiness plan
 - **Are we ready to run job submission at scale without X.509 in the US?**

Questions

- in AGIS there are 102 HTCondor-CE listed [Link to Active HTCondor-CE's](#)
 - 20 at CERN, 30 at Tier 1 (BNL, FZK, IN2P3, INFN, PIC and RAL), 40 at Tier 2's
 - Where do the sites get the HTCondor-CE code? Will they be affected by the OSG timeline?
- Are we ready to begin testing at scale at BNL?
- What is status of IAM service?
 - Frequency of token renewal and load issues at scale?
- What is the transition plan to token only service?
 - Transition site-by-site - what coordination will be needed with ADC?
 - Are there sufficient monitoring/debugging tools (SAM/ETF tests, etc.) in place to identify token-related problems?
 - **Can we meet OSG Feb timeline?**
- Looking further, are there any ATLAS workflow concerns for HTCondor transition to v10 in September?

Relevant Links

- OSG / HTCondor Schedule (Fred Luehring)
 - OSG 3.6 <https://docs.google.com/document/d/1HK2QSwKVUzfUHyWi-nPTITzzc9k8hmSKDbfzoYkqJXQ>
 - HTCondor 9.0.x EOL: <https://htcondor-wiki.cs.wisc.edu/index.cgi/wiki?p=PlanToReplaceGridCommunityToolkit>
- Agreed Plan (Alessandra Forti)
 - April 2021:
<https://indico.cern.ch/event/1027035/contributions/4312412/attachments/2224540/3767505/Globus%20deprecation%20in%20HTCondor%20CE.pdf>
 - October 2021: <https://indico.cern.ch/event/1088704/>
- From Petr Vokac
 - OSG Ticket: <https://opensciencegrid.atlassian.net/browse/SOFTWARE-4590>
 - FaHui Lin Presentations:
https://indico.cern.ch/event/1078977/contributions/4538372/attachments/2313301/3941021/Token_WFMS_210923.pdf
https://indico.fnal.gov/event/50597/contributions/225841/attachments/148376/190603/ATLAS_Token_Transition_OSG_211014.pdf
 - SAM/ETF Tests:
<https://indico.cern.ch/event/1093339/contributions/4635883/attachments/2355568/4019866/ATLAS%20job%20submission%20with%20tokens%20to%20HTCondor-CE.pdf>
 - Token deployment in CMS, LHCb, ALICE, and DUNE:
<https://cern.service-now.com/service-portal?id=outage&n=OTG0068342>
- FaHui Lin SW&C Presentation (Fernando Barreiro)
 - https://indico.cern.ch/event/1077170/contributions/4550296/attachments/2321726/3953685/Token_S%26C_211004.pdf