

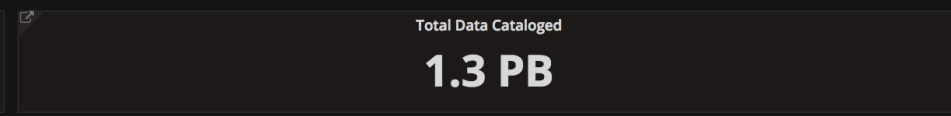
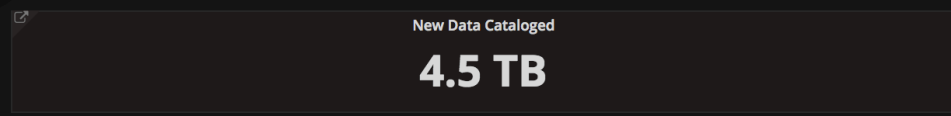
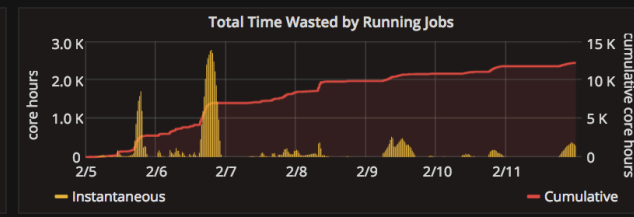
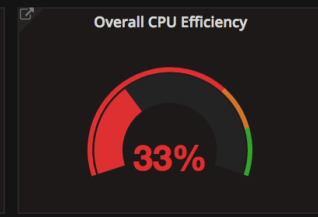
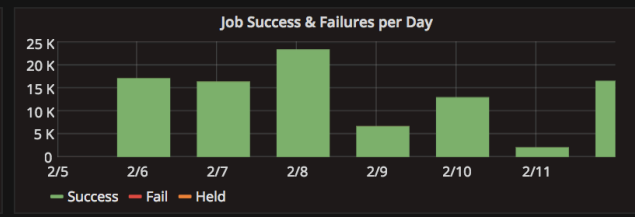
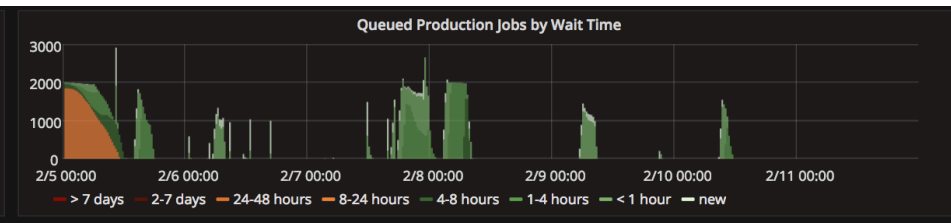
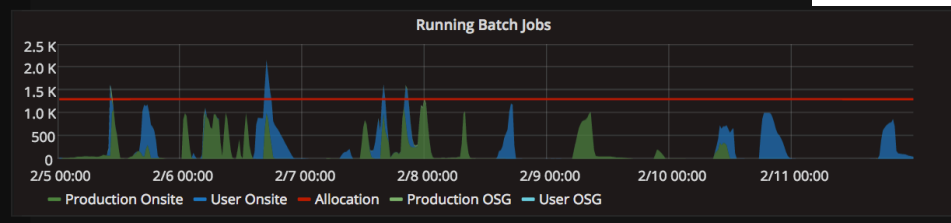
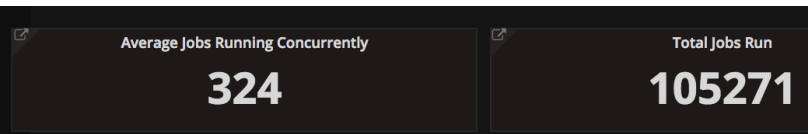
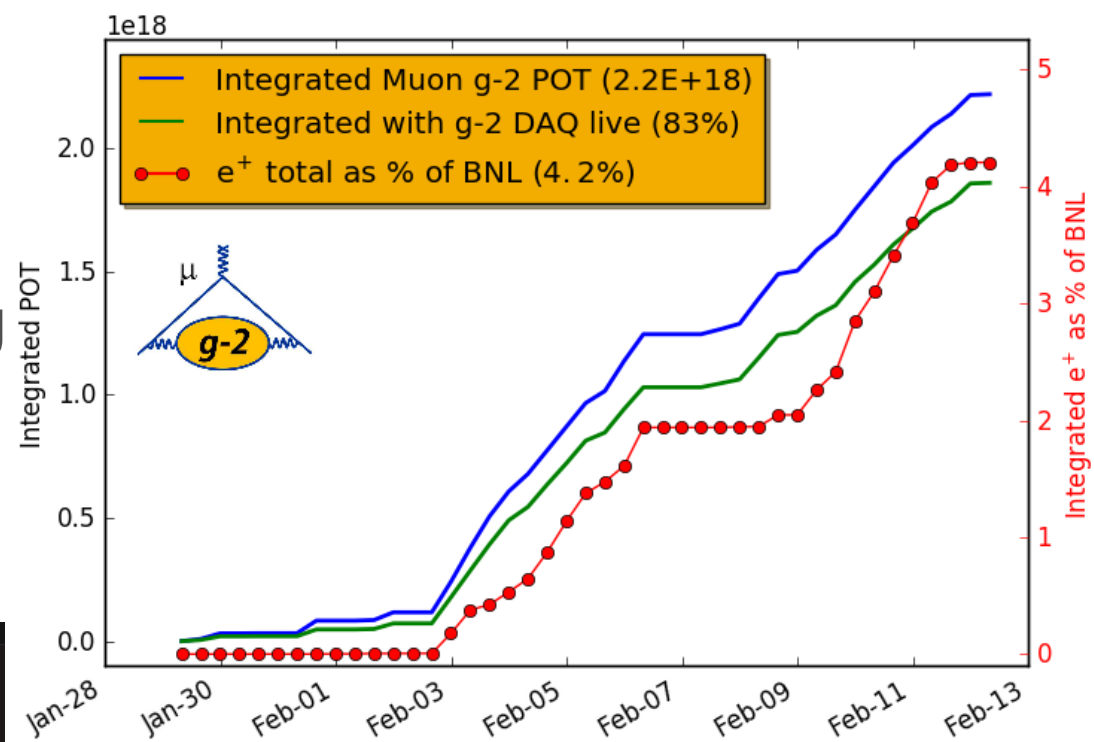
Muon $g-2$ AEM Update

Brendan Kiburg, Jarek Kasper

February 12th, 2018

Computing Update

- combination of data processing/reprocessing



Experiment update week of 2/5

- Cryo pumps (efficient water pump speeding up letup/pumpdown recovery)
 - commissioned and tested
- Kicker and Quads (Injection systems to put/keep muons on proper orbit in ring)
 - increased nominal set-points from 55 kV to 60 kV, for 25 % more storage
 - quad scraping studies (step and time) to improve CBO amplitude
- Calorimeter (measure decay positrons from muons)
 - Operating 24 / 24 calorimeters, gain studies
- Tracker (measures spatial profile of decay positrons)
 - Operating 16 / 16 modules, HV calibration and time window adjustment.
- Trolley (Maps the magnetic field when the muon beam is off)
 - Trolley garage needs a mechanical fix
- Surface coils (Toll to smoothen out magnetic field, and vertically align beam)
 - Found a combination radial field and multipole corrections
- Plunging probe (Absolute calibration of magnetic field)
 - Azimuthal motion and NMR tune need a fix
- Beam Tuning (An iterative procedure optimizing storage fraction)
 - x/x' , y/y' , and final focus scans on the inflector entrance
 - a successful 16 bunch (per NuMI cycle) test at 44 trains per super cycle

Main focus week of 2/12

- Cryo pump controls
- Clock blinding for real
- Plunging probe and trolley
 - fixes,
 - cross-calibration

- More iterations on beam, injection, and detector tuning
- A production test (48 h)
 - exercise all systems, collect statistics, measure performance
 - inform final weeks of tweaks

- Switching to production in late February