Migration of ATLAS Software to AthenaMT

Date	Framework	Algorithms
2015	Event Store access via Data Handles; Event View design completed; Updated Configuration design; Re-integration of Hive features into Gaudi trunk	Few Algorithms as concurrent prototypes, concentrate on high inherent parallelism; general clean-up of code
2016 Q2	Event Views implemented; IO Layer redesigned; Core Gaudi service migration starts	Wider set, prototype CPU expensive Algs with internal parallelism
2016 Q4	Parallel Algorithm support; Detector/Condition Store re-implementation; Schedulable Incidents; Main Athena development branch moved to Gaudi trunk	First trigger chains running with Event Views; limited reconstruction
2017	All Athena and Gaudi Services made thread safe; Support for re-entrant Algorithms	Serious migration with select groups; Core of useful Algorithms to allow for framework optimization
2018	Framework optimization, and tuning for different hardware	Bulk of Algorithm migration
2019		Integration and Readiness for Run 3

- Aggressive schedule
  - many migrations steps are not parallelizable
- On track for most milestones
  - but not all!

- Will focus on what we've accomplished in 2016

Summary

- ATLAS has begun the migration of core framework elements that require the most significant design changes beyond mere thread safety
  - sometimes by completely re-evaluating functionality and limiting design to actual use cases
- We have made design choices that minimized alterations to client code
  - leverage existing features of framework, *eg* DataHandles and the Scheduler
- Changes to Algorithmic client code that use these elements are also underway
  - relatively straight forward recipe for the most part (but a lot of grunt work)
- Anticipate on-schedule finalization of design, and implementation of essential core Services by end of 2016, with full support of MT concurrency by end of 2017
  - we already have production level Atlas G4 simulation running in MT on KNL.

see Steve Farrell's talk Thursday, track 2, 2PM

- Broad migration of Algorithm code to use these features will begin in 2017