

Athena Reconstruction Tutorial



At the end of this tutorial you should:

- Be more familiar with terms and concepts in Athena
- Be able to understand code development of Algorithms
- Be able to write simple analysis programs



Presentation of concepts

Athena

StoreGate

Hands On

Access Atlas sw with ASK (AthASK)

Start with an (almost) empty reconstruction Algorithm

Work towards a fully featured application



Introduction to Athena

Massimo Marino (presented by PC)



The software that makes sure your code

- runs at the right time,
- with the right input data,
- and that takes care of any output

(~Lassi Tuura)



Data Objects:

the result of your troubles and also your main interface to the rest of Atlas software

- e.g., CaloClusterContainer, EventInfo

Algorithms:

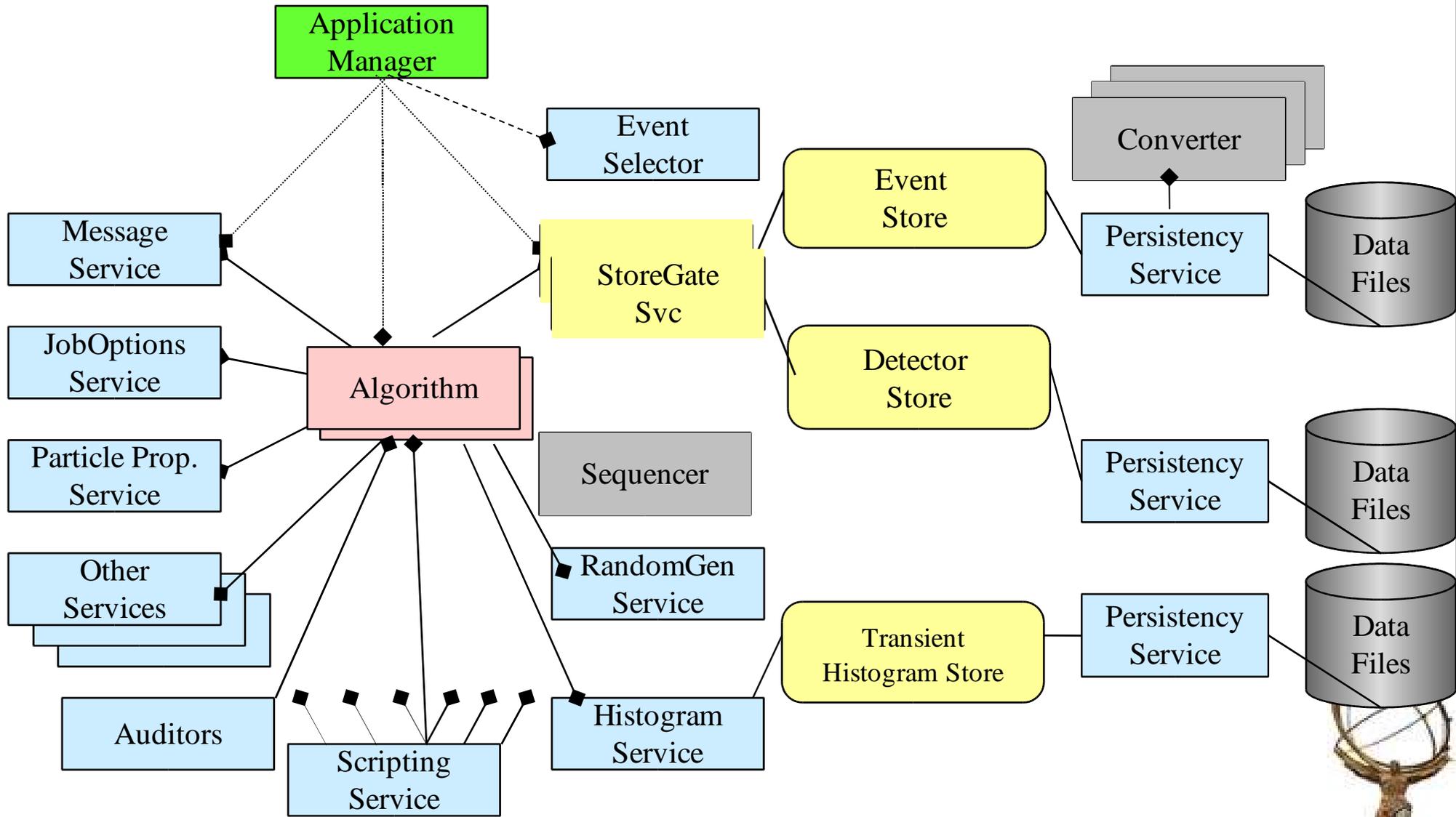
user application building block, visible & controlled by framework.

- May delegate processing to AlgTools
- Implements three methods for invocation by framework :
initialize(), execute(), finalize()

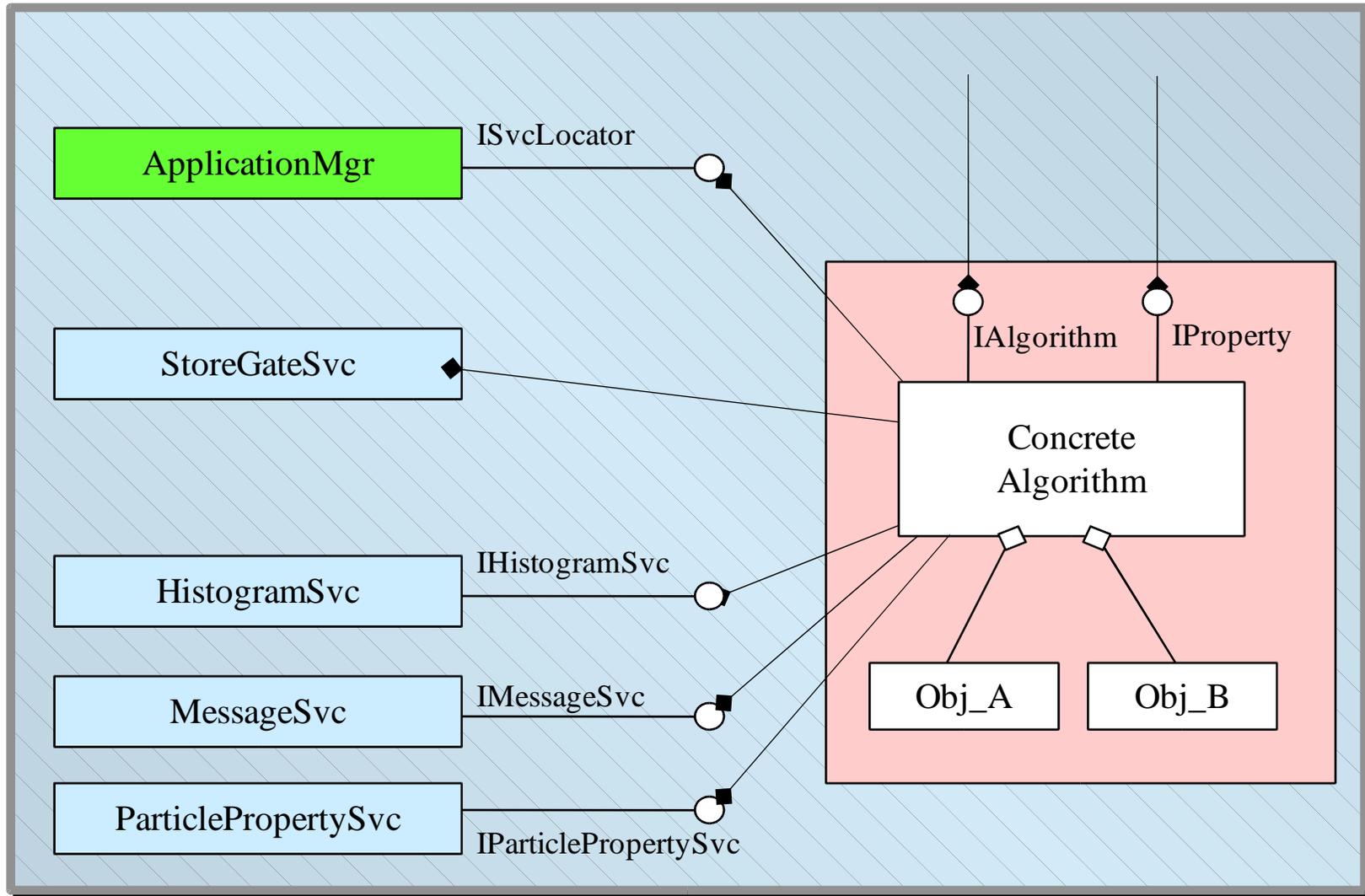
AlgTools:

- Tools to perform common algorithmic tasks (e.g. Fitting). Allow reuse of code.
- Same support from Athena than Algorithms
- But you have to run them!





Accessing Services from Algorithms



Services

- Globally available software components providing specific framework capabilities, e.g., Messaging, Histogramming, etc

Data Converter

- Write/Read Data Objs and their associations. Hides persistency technology from the rest of athena.

Properties

- Control and data parameters for Algorithms, Tools and Services. Allow for run-time configuration via job option files or python scripting.



Job Options files

- Conventional text file (default jobOptions.txt) used to control an Athena application configuration at run-time

Auditors

- Monitor various aspects of other framework components
NameAuditor, ChronoAuditor, MemoryAuditor, MemStatAuditor,
etc

Sequences

- Lists of *members* Algorithms managed by a Sequencer.
- Sequences can be nested. Default behavior: the Sequencer terminates a sequence when an event fails a filter. The *StopOverride* property overrides the default behavior.

Filters

- Event selection criteria.

