

# Overview



Applications Places

Wed 21 Nov, 2:04 PM

ROOT Object Browser

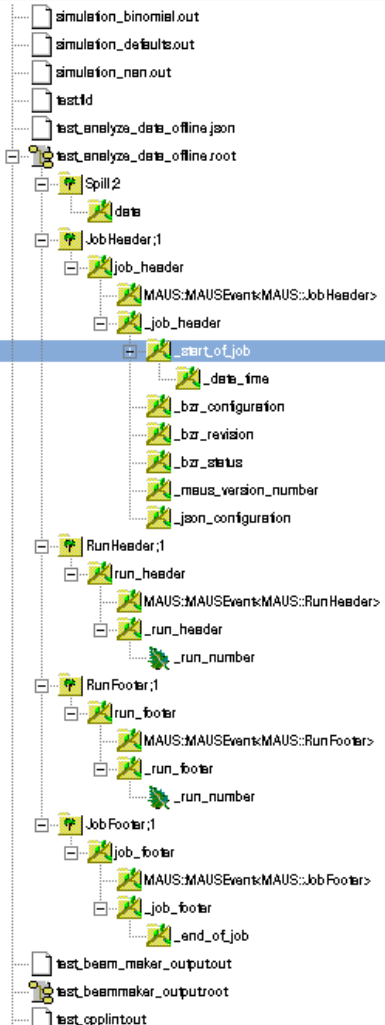
Browser File Edit View Options Tools

Files

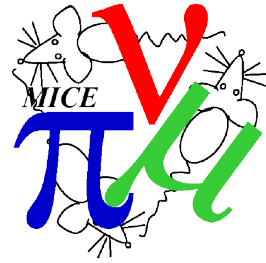


Draw Option:

Canvas\_1  Editor1



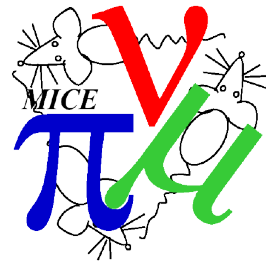
# Job execution



## Job Initialisation

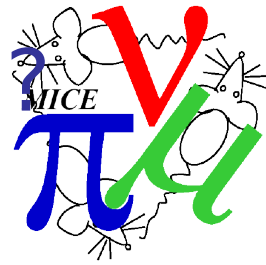
- Birth Outputter
- Write job header
- Birth Inputter
- Run loop
  - RunActionManager::StartOfRun ← generates run header
  - Birth Reducer
  - Birth Mapper
  - Spill loop
    - Generate event (from inputter)
    - Check for end of run
    - Transform
    - Merge
    - Save event (to outputter)
  - Death Mapper
  - Death Reducer
  - RunActionManager::EndOfRun ← generates run footer
- Death Inputter
- Write job footer
- Death Outputter

# RunActionManager



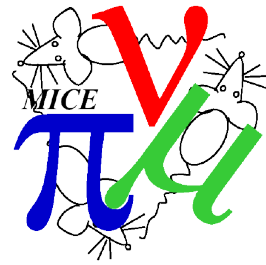
- RunActionManager holds a list of (virtual) RunAction interface objects
- RunAction interface makes a call to StartOfRun taking a RunHeader object
  - RunNumber filled in at construction
- RunAction interface makes a call to EndOfRun taking a RunHeader object
  - RunNumber filled in at construction
- User should make an instance of RunAction that gets her configuration/calibration data or whatever

# What should go in Run MetaData



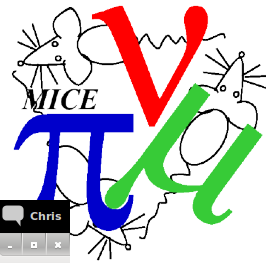
- Per data run configuration information
  - Geometry unique ID
  - MC cavity phasing information (reference particle MC event?), etc
  - Field short description
  - What calibrations were used
  - What configurations were used
- These data can change depending on when/how the code was run
  - i.e. calibration may be updated after running with different calibrations
  - We want to be able to understand and recover old reconstructed data
- At the moment RunActionManager controls this data
- Nb: one RunActionManager object per thread

# What goes in Job MetaData?



- JobHeader
  - MAUS version
  - Bzr revision information
  - Data cards
  - Time stamp
- JobFooter
  - Time stamp
- Potentially could add
  - Processor load/memory usage?
  - Process ID?
  - Anything else?

# Globals



Applications Places Wed 21 Nov, 2:24 PM

MAUS: Globals Class Reference - Mozilla Firefox

Firefox ~maus-maintainers/maus/merge... MAUS - MICEmine MAUS: Globals Class Reference http://test.mice.r...\_log\_std/"view"/ Geant4: G4RunManager Class Re...

micewww.pp.rl.ac.uk/maus/MAUS\_release\_version\_0.4.0/doxygen\_framework/html/classMAUS\_1\_1Globals.html

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## Static Public Member Functions

static Json::Value *	<b>GetConfigurationCards ()</b> Get Configuration datacards.
static CppErrorHandler *	<b>GetErrorHandler ()</b> Get CppErrorHandler.
static MAUSGeant4Manager *	<b>GetGeant4Manager ()</b> Get the Geant4Manager (controls access to G4 objects)
static Globals *	<b>GetInstance ()</b> Return a pointer to the singleton instance.
static dataCards *	<b>GetLegacyCards ()</b> Get legacy datacards.
static BTFieldConstructor *	<b>GetMCFieldConstructor ()</b> Get the Monte Carlo BTFieldConstructor (controls access to field maps)
static MiceModule *	<b>GetMonteCarloMiceModules ()</b> Get the MC Geometry MiceModules.
static BTFieldConstructor *	<b>GetReconFieldConstructor ()</b> Get the Reconstruction BTFieldConstructor (controls access to field maps)
static MiceModule *	<b>GetReconstructionMiceModules ()</b> Get the Reconstruction Geometry MiceModules.
static RunActionManager *	<b>GetRunActionManager ()</b> Get RunActionManager.
static bool	<b>HasInstance ()</b> Return true if the singleton has been initialised, else false.

Terminal MAUS: Globals Class R... MAUS-StartOfJob-etc.o... [maus\_user\_guide.pdf ... Globals.hh (~MAUS/m...