



art news

Kyle J. Knoepfel
art stakeholders meeting
24 August 2017



Discussions about multi-threading with the experiments/projects

- In the next few weeks, we will begin discussions with experiments/projects regarding multi-threaded *art*.
- To be discussed (e.g.):
 - New concepts in event processing and in your code design
 - Changes required in your code to take advantage of multi-threading
 - Your input

A recent exception from Mu2e

```
---- EventProcessorFailure BEGIN
  An exception occurred during current event processing
---- EventProcessorFailure BEGIN
  An exception occurred during current event processing
---- ScheduleExecutionFailure BEGIN
  ProcessingStopped.
---- ProductNotFound BEGIN
  getByLabel: Found zero products matching all criteria
  Looking for type: std::vector<mu2e::MVAStruct<mu2e::TrkQualDetail> >
  Looking for module label: KFFDeM
  Looking for productInstanceName:

  cet::exception going through module ??
---- ProductNotFound END
  Exception going through path end_path
---- ScheduleExecutionFailure END
---- EventProcessorFailure END
---- EventProcessorFailure END
```

Exception message format

```
---- EventProcessorFailure BEGIN
  An exception occurred during current event processing
  ---- EventProcessorFailure BEGIN
    An exception occurred during current event processing
    ---- ScheduleExecutionFailure BEGIN
      ProcessingStopped.
      ---- ProductNotFound BEGIN
        getByLabel: Found zero products matching all criteria
        Looking for type: std::vector<mu2e::MVAStruct<mu2e::TrkQualDetail> >
        Looking for module label: KFFDeM
        Looking for productInstanceName:

        cet::exception going through module
      ---- ProductNotFound END
      Exception going through path end_path
    ---- ScheduleExecutionFailure END
  ---- EventProcessorFailure END
---- EventProcessorFailure END
```

We have adopted a nested exception format.

Exception message format

```
----- Begin Fatal Exception 14-Jul-2017 17:23:38 CEST-----  
An exception of category 'ProductNotFound' occurred while  
  [0] Processing Event run: 1 lumi: 1129 event: 225302 stream: 0  
  [1] Running path 'p'  
  [2] Calling method for module PATJetSelector/'selectedPatJetsAK5PFCHS'  
Exception Message:  
Principal::getByToken: Found zero products matching all criteria  
Looking for a container with elements of type: pat::Jet  
Looking for module label: patJetsAK5PFCHS  
Looking for productInstanceName:  
  
Additional Info:  
  [a] If you wish to continue processing events after a ProductNotFound exception,  
add "SkipEvent = cms.untracked.vstring('ProductNotFound')" to the "options" PSet in the  
configuration.  
  
----- End Fatal Exception -----
```

A recommendation for a
stacktrace-like output.