Global Muon Trigger Emulator in CMSSW

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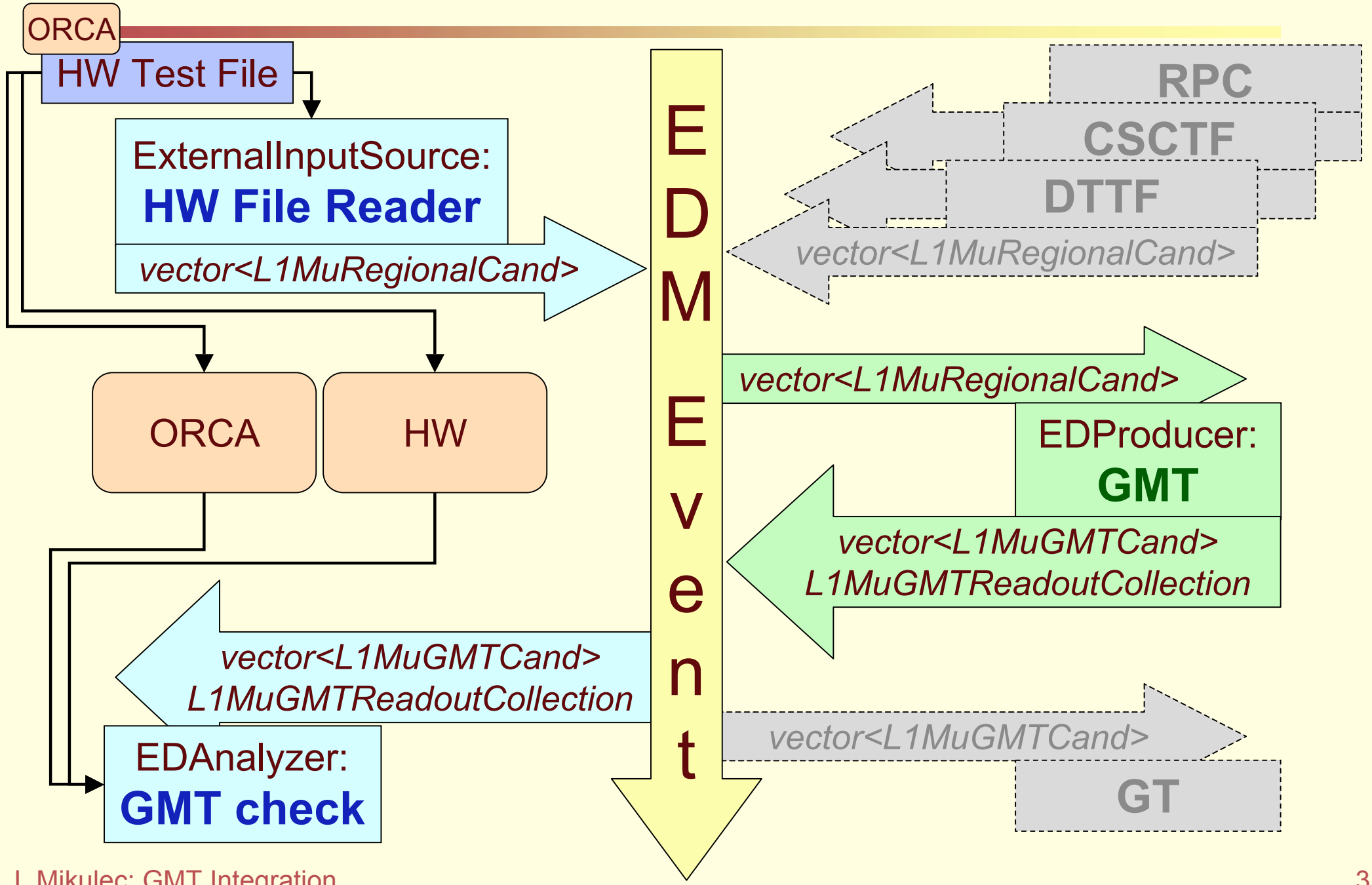
GMT emulator

- **Since the SW Review, effort has been put to migrate the GMT emulator from ORCA to CMSSW.**

- **At present, private version of fully working standalone GMT emulator exists in CMSSW.**

  The input from regional muon triggers is mimicked by an "ExternalInputSource" module which reads the information from a HW test file pre-generated by ORCA and inserts it in a preliminary format into the "Event". GMT output from CMSSW can be compared to the output from ORCA and/or HW.

GMT emulator in CMSSW



Data Formats

- **It was agreed to store each system's L1 data formats definitions to separate directories: e.g. DataFormats/L1GlobalMuonTrigger.**
- **For the GMT it is** (very close to ORCA classes)**:**

L1MuGMTCand.h
L1MuGMTExtendedCand.h
L1MuGMTReadoutCollection.h
L1MuGMTReadoutRecord.h
L1MuGMTScales.h

L1MuPacking.h
L1MuRegionalCand.h
L1MuScale.h
L1MuTriggerScales.h
L1VCandidate.h

- **Regional candidates are for now identified by the Product Instance:**

```
produces<std::vector<L1MuRegionalCand> >("DT");
produces<std::vector<L1MuRegionalCand> >("CSC");
produces<std::vector<L1MuRegionalCand> >("RPCb");
produces<std::vector<L1MuRegionalCand> >("RPCf");
```

GMT emulator plans

- **Code is functional and gives consistent results with ORCA and HW.**
- **To be done:**
  - **Apply CMSSW coding rules**
    - **Remove Singletons**
    - **Use Message Logger**
  - **Reiterate on data formats (after cvs commit)**
  - **Migrate the LUT writer and other tools**
  - **Define the Calorimeter input data format**
  - **Write Raw2Digi**
  - **Database interface**