Global Muon Trigger Status

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CMS Trigger meeting
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HW status / Integration

- **January-March:** all **input** connections (PSB, DTTF, CSCTF, RPC) **tested in 904**.

- **Plan for April:** was to **test GMT-GTL connection** with the second GMT module in Vienna. Due to faulty PROMS this test was **not possible**. Will be performed in 904 with the first GMT as soon as the GT HW arrives at CERN (next week).

- **Second GMT:** **new** batch of **PROMS** already **available**. The module is being assembled and tested in Vienna.

- **Improvements** in the **mechanical stability** of the GMT and PSB were made in Vienna.
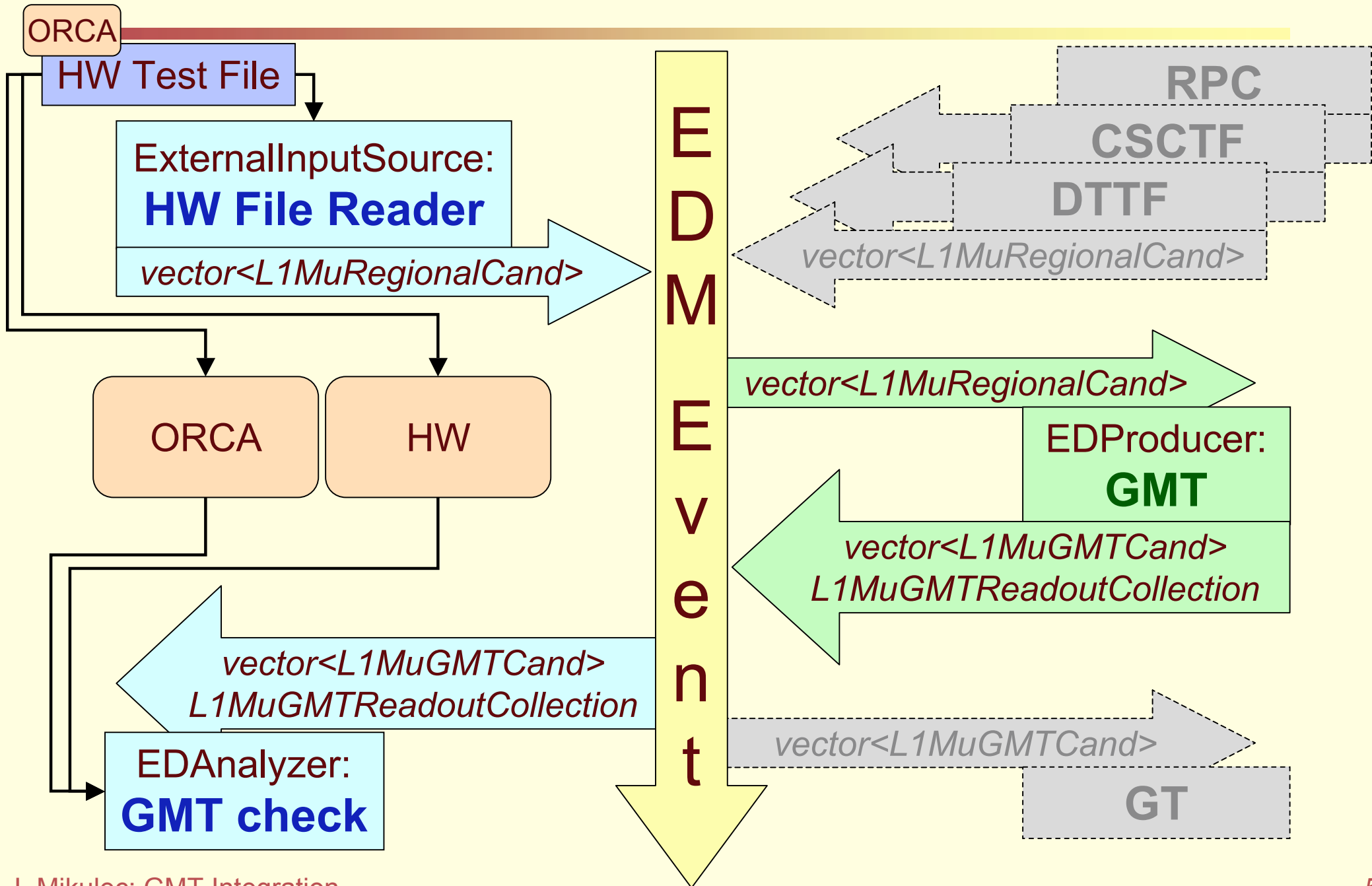
Plans

- **Second GMT:** **In about 2 weeks (if no new problems appear) should be ready for shipping to CERN - then the first module will be returned to Vienna for small repairs (input short-circuits) and to apply the new mechanical support.**

- **Updated firmware (fixing internal bit errors) will be used in MTCC.**

- **After GMT-GTL test in 904, we will move to P5.**

- **Tobias Nöbauer will come to CERN end of May to help with the TS integration**

No changes in the latency since the last latency review

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.**

- **It was agreed to store each system's L1 data formats definitions to separate directories: e.g. DataFormats/L1GlobalMuonTrigger.**

GMT emulator in CMSSW

ORCA

HW Test File

ExternalInputSource:
HW File Reader

vector<L1MuRegionalCand>

ORCA

HW

E D M   E v e n t

RPC

CSCTF

DTTF

vector<L1MuRegionalCand>

vector<L1MuRegionalCand>

EDProducer:
GMT

vector<L1MuGMTCand>
L1MuGMTReadoutCollection

vector<L1MuGMTCand>
L1MuGMTReadoutCollection

EDAnalyzer:
GMT check

vector<L1MuGMTCand>

GT

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