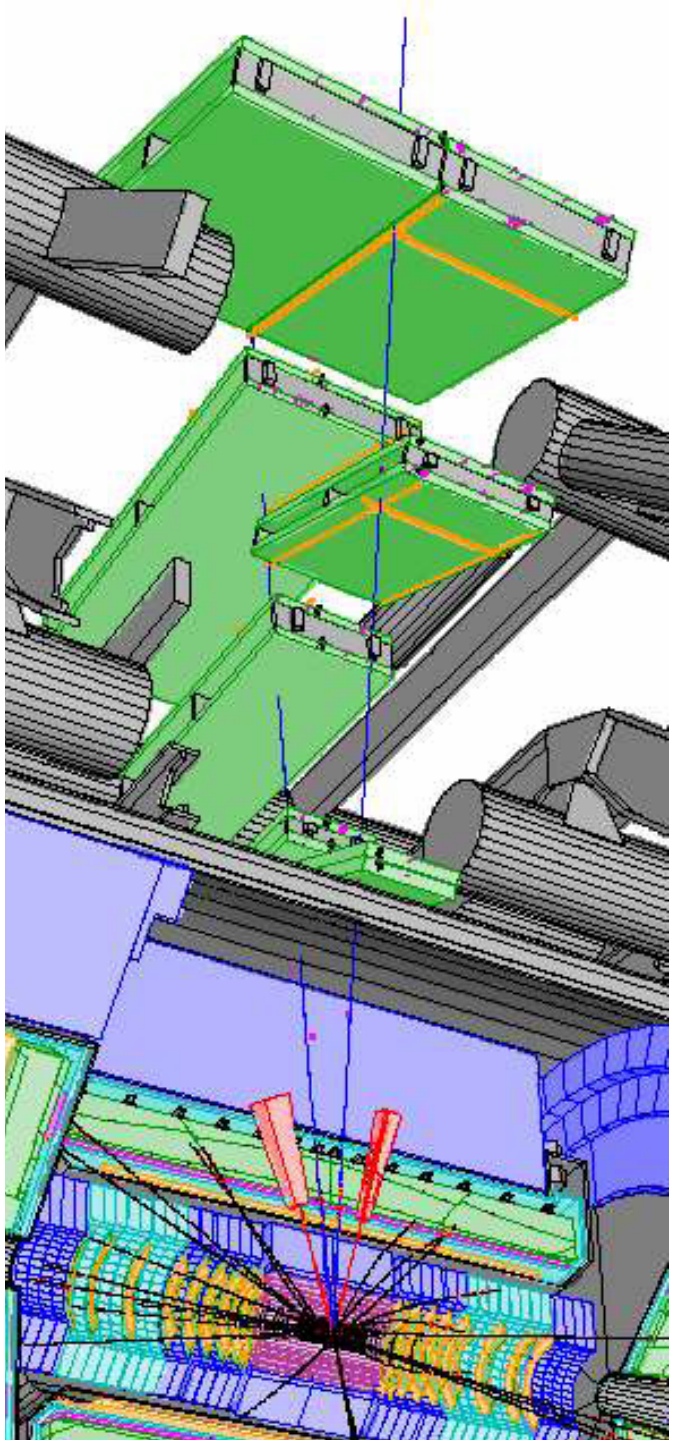

Trigger Software Validation

Outline:

- Status of infrastructure
- Schedule for release 13
- RDO data for development and validation

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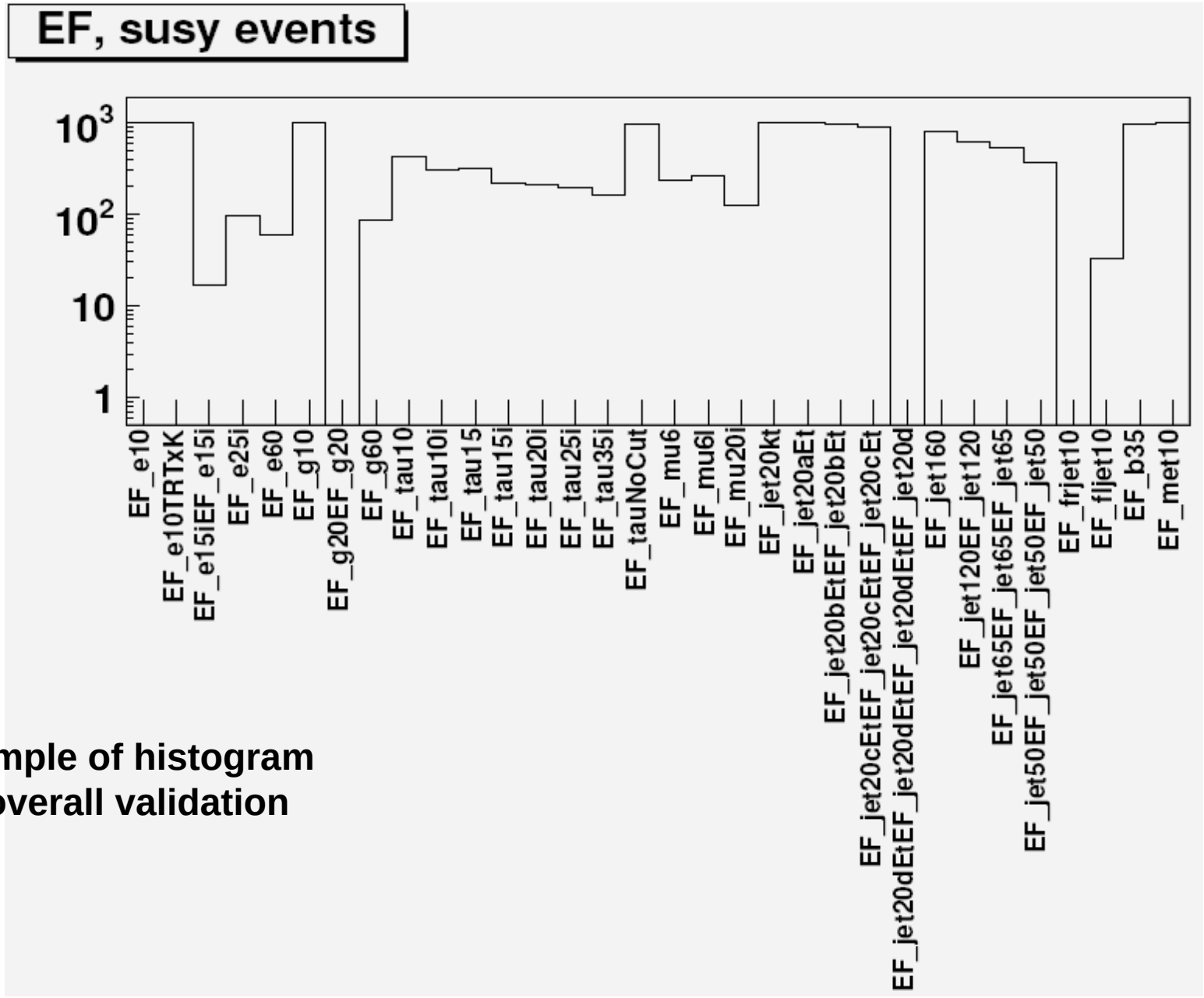
TAPM Open Meeting – Mar. 1, 2007

Automatic tests

- Available tests
  - ANT: compares log files for a few events
  - RTT: compares histograms for ~1k events
  - Soon there will be a full-chain RTT: look for major errors somewhere in the reconstruction chain for ~200 events
    - See Validation meeting from Tuesday: http://indico.cern.ch/conferenceDisplay.py?confId=12855
- Need to address:
  - Algorithm validation:
    - Already quite some work was done (see e.g. Danilo's talk)
  - Integration tests: does it all work together?
    - Will use the **new TrigDecision** class (hmm…also under development) to compare nightly RTT results with reference
    - Monitoring of **time** and **Steering** counters will also be very useful



Example of histogram for overall validation

Automatic tests: RTT

The idea is to use the Monitoring infrastructure for validation tests in RTT:

- Avoid yet another structure and complicated use cases ("if online do this, otherwise do that" …)
- Optimize developer effort and time
- Some good developments:
  - Tomasz produced IMonitoredAlgo and GenericMonitoringTool to instrument hypo and FEX classes: first version working!
  - Meng Wang producing a similar tool (HLTMonitoringTool) see Data Quality Workshop yesterday: http://indico.cern.ch/conferenceDisplay.py?confId=12422
  - Looking at joining efforts!
- Aim to have this working 2 weeks before rel.13 (…i.e. next week!)

Schedule for release 13

- Machinery would ideally start to be used 2 weeks before release to guide fixes
- An example of hypo instrumented for monitoring will be provided next week and put in RTT
- Developers will be asked to instrument their algorithms fast so that they can be used in RTT
  - Only a few lines of code per algo are needed
  - We need to monitor ALL variables used in cuts
  - The baseline plan is to use Tomasz's tool as it stands next week and implement only minimal functionality for now
- By the 12th – 13th March, most hypos should be ready
- This leaves little more than 1 week before rel.13

RDOs for trigger validation

- There are plans to write RDOs to tape immediately after reconstruction
- Only 10% of the HITS for some datasets would be kept on disk
- The trigger cannot run from HITS at present: it requires HITS→RDO + RDO→ESD
- Each slice should compile a list of needed RDO samples so that the TAPM can request that they are kept
- Please consider that lots of background and some signal may be more important than lots of signal and not enough background
- Example from tau slice:
  - At least **200 kevents** from samples **J0, J1, J2, J3** : common to many slices
  - **20 kevents** from signal samples W→τ had (5107), Z→ττ (5188), $A^0 \rightarrow \tau\tau$ (5862)
  - Around **300 kevents** of **min.bias** (5001)
- Also need top events : how many?

Discussion on RDO samples