Global Muon Trigger Status

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CMS Trigger meeting
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HW status / Integration

- **All input connections (PSB, DTTF, CSCTF, RPC) tested in 904 before April.**

- **During May: GMT-GT connection has been tested in 904. Data has been transferred from GMT input chips to GTL and also to FDL module. A small adjustment in the GMT sorter chip fw was needed. GMT latency changed from 9.5 bx to 10 bx. Connection now fully working.**

- **Second GMT (in Vienna): All problems with loading fw have been solved.**

- **Improvements in the mechanical stability of the GMT were applied to the module at CERN.**

- **GMT still in 904 but can move to P5 at any time.**

Online SW status / Integration

- **GMT can now be configured using the Trigger Supervisor and the Database (Tobias Nöbauer). This is the most important step towards the TS MTCC demonstrator.**

- **The GMT configuration database is evolving and being filled with contents.**

- **Additional functionality will be added to allow standalone tools to optionally use the database information.**

- **Needs of the CMSSW emulator are being taken into account in preparing the Database scheme.**
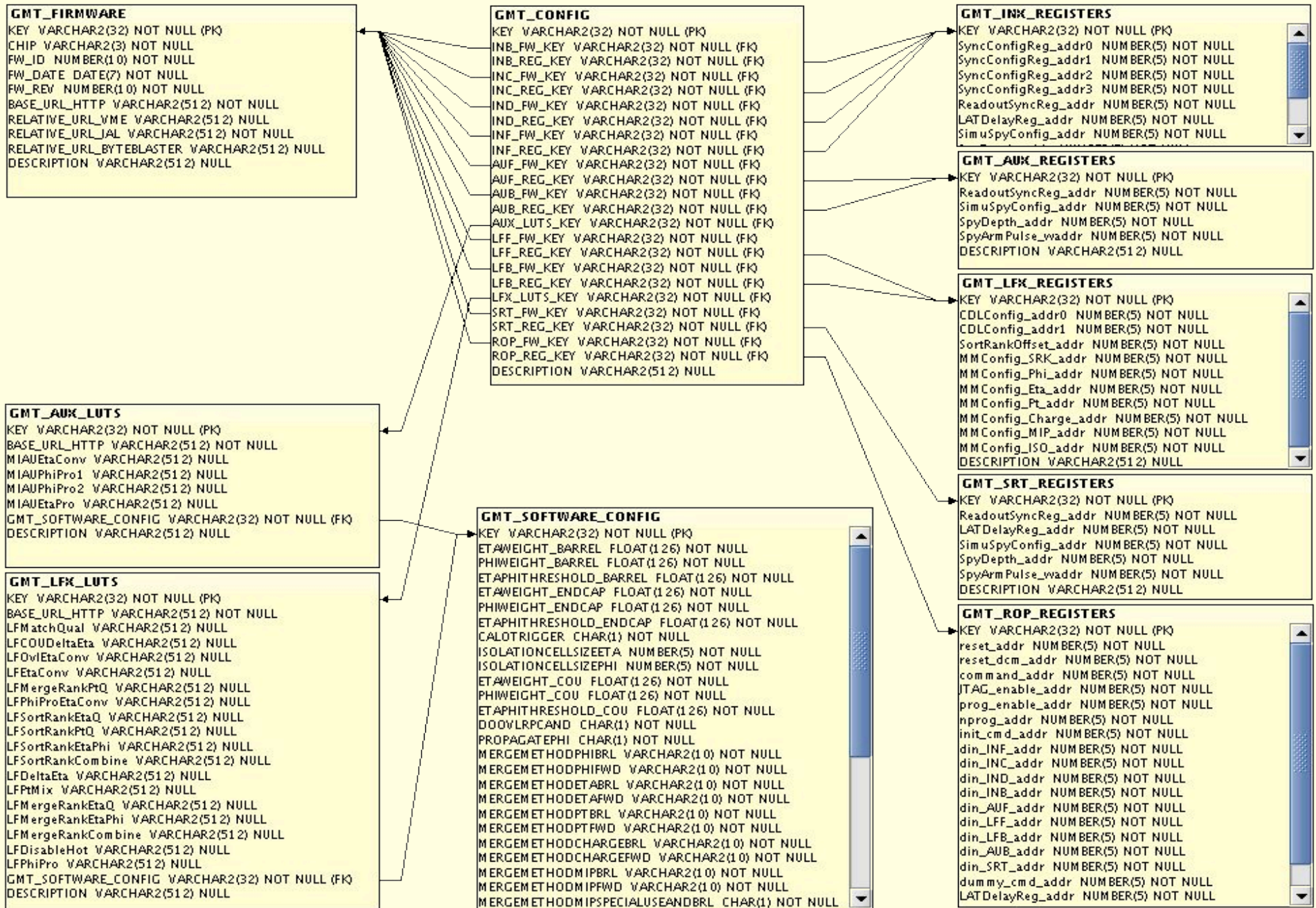
Scheme of the GMT control

A given configuration can be dumped, put/get to/from the DB and used by standalone UI
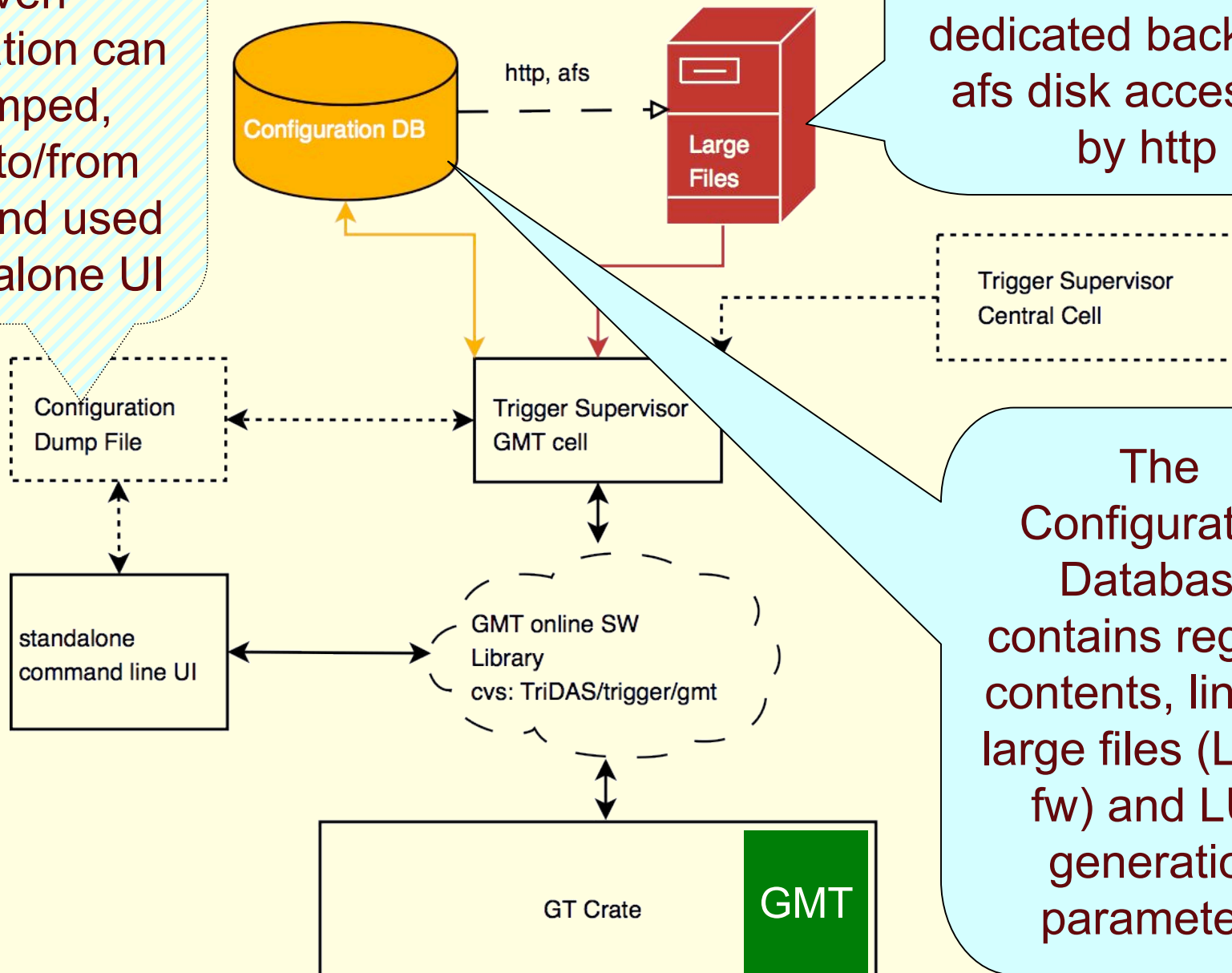
Large files are stored on a dedicated backed-up afs disk accessible by http

The Configuration Database contains register contents, links to large files (LUTs, fw) and LUT generation parameters

Configuration DB

http, afs

Large Files

Trigger Supervisor Central Cell

Configuration Dump File

Trigger Supervisor GMT cell

standalone command line UI

GMT online SW Library
cvs: TriDAS/trigger/gmt

GT Crate

GMT

Updated Database scheme

GMT emulator in CMSSW

- **A fully working standalone GMT emulator was committed to CMSSW. It is using intended interface classes - ready to be run in the full framework.**

- **The GMT emulator code resides in L1Trigger/GlobalMuonTrigger. It contains also a gmt.cfi file with the default GMT configuration and some .cfg files to run and test in the standalone mode with sample data.**

- **The interface classes reside in: DataFormats/L1GlobalMuonTrigger. These have been tagged and scheduled for the 0_8_0 prerelease - can be referenced by other systems.**

GMT emulator in CMSSW

ORCA

HW Test File

ExternalInputSource:
HW File Reader

vector<L1MuRegionalCand>

ORCA

HW

vector<L1MuGMTCand>
L1MuGMTReadoutCollection

EDAnalyzer:
GMT check

E D M   E v e n t

RPC

CSCTF

DTTF

vector<L1MuRegionalCand>

vector<L1MuRegionalCand>

EDProducer:
GMT

vector<L1MuGMTCand>
L1MuGMTReadoutCollection

vector<L1MuGMTCand>

GT