

*LHCb s/w week*  
*25/4/2006*

***Introduction to***  
***Conditions DB & Update Manager***

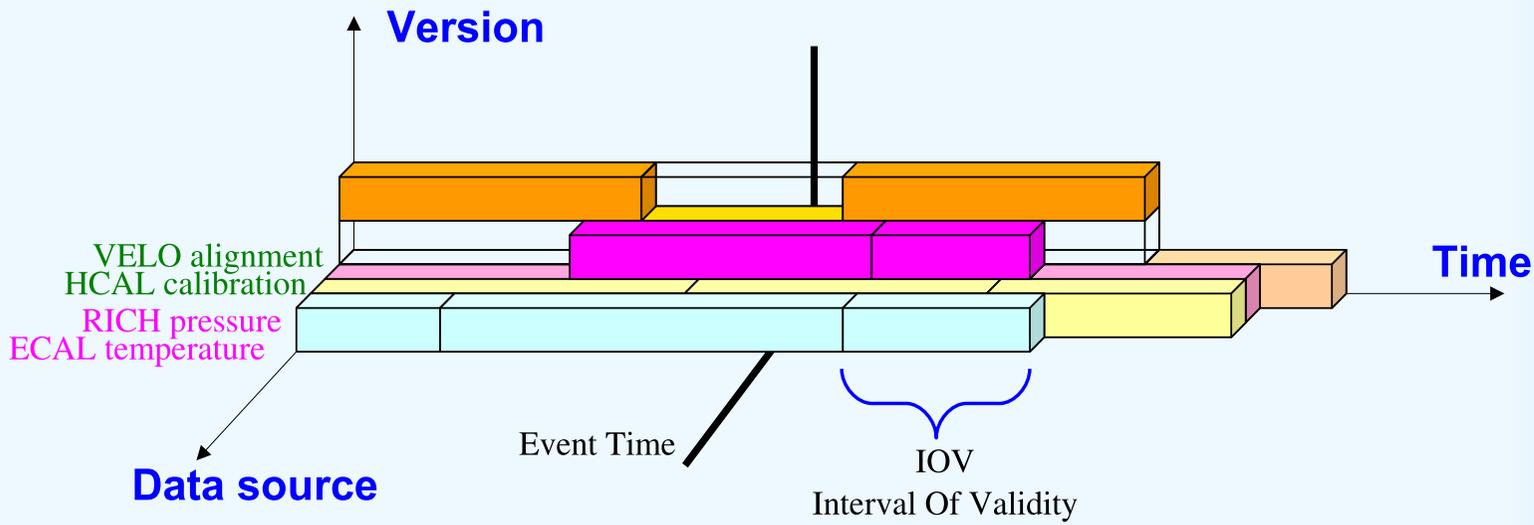
Marco Clemencic

[marco.clemencic@cern.ch](mailto:marco.clemencic@cern.ch)

- ▶ Conditions Database
  - ▶ Key concepts
  - ▶ Definitions
  - ▶ Organization
- ▶ Update Manager Service
  - ▶ What it is for
  - ▶ Main features

# *Conditions Database*

## Tool to handle conditions



- ▶ Conditions
- ▶ IOVs
- ▶ Folders
- ▶ Single-Version
- ▶ Multi-Version

- ▶ **Condition:**  
a datum which is valid for a defined period
- ▶ **IOV:**  
Interval Of Validity, the period for which a condition is valid
- ▶ **Folder:**  
container of condition with the same meaning
- ▶ **Single-Version Folder:**  
Folder that can contain only non overlapping IOVs
- ▶ **Multi-Version Folder:**  
Folder that can contain overlapping IOVs  
(a set of IOVs is identified by a TAG)

- ▶ The conditions database is organized like a filesystem.
- ▶ Folders are the equivalent of a file
- ▶ A folder is identified by its path

/Conditions/LHCb/Environment/Condition1

/Conditions/LHCb/Environment/Condition2

/Conditions/Velo/Alignment/Station1

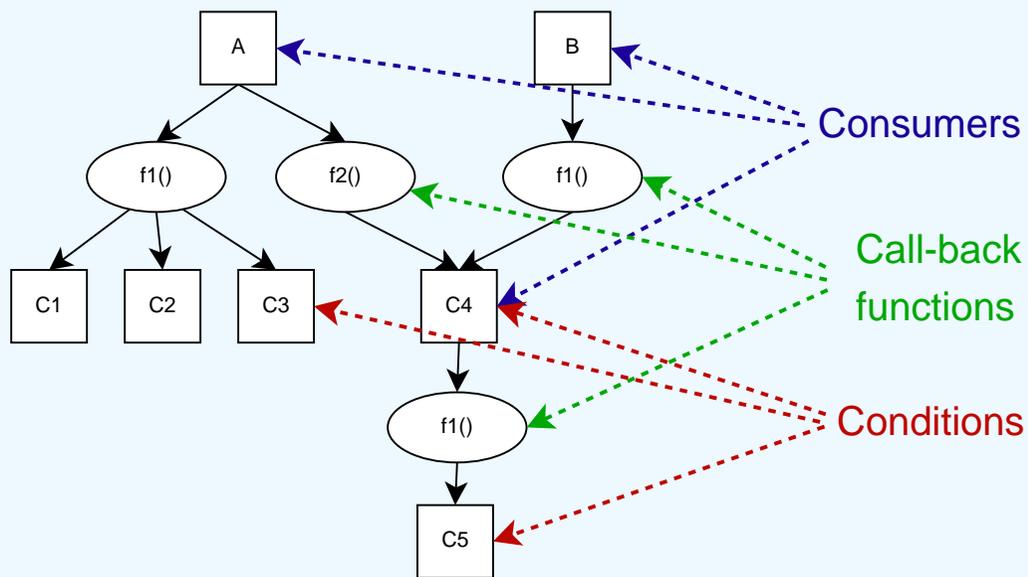
/Conditions/Velo/Alignment/Station2

## *Update Manager Service*

- ▶ Data in the CondDB are mapped to objects in the Transient Detector Store
- ▶ We need to keep the TDS synchronized with the event time:
  - ▶ we do not want to scan the whole TDS every event to find which conditions need an update
  - ▶ users may want to react to changes with provided code

The **Update Manager Service** is the service performing the updates and calling user code when needed.

- ▶ Objects needing a conditions (consumers) must be registered to the UMS and optionally provide a call-back function
- ▶ “Conditions” can be anything inside the TDS or anything known by the UMS (e.g. another consumer)



# *Conclusions*

- ▶ Normal users do not interact with the CondDB
- ▶ they just need to talk to the UMS
- ▶ The UMS is very flexible and easy to use  
... at least I hope so 😊

Let's move to the tutorial!