

Taking cosmics during LHC fills

- Problem:
 - The Tracker needs as much cosmics as possible in **peak mode** for the alignment
 - Peak mode integrates over a longer time and cannot be used in collisions
 - In collisions use deconvolution mode
 - LHC interfill time is expected to be ~ 1 hour
 - Switching from deco to peak and back takes ~ 1 hour...
- We need to **speed up the switch!**

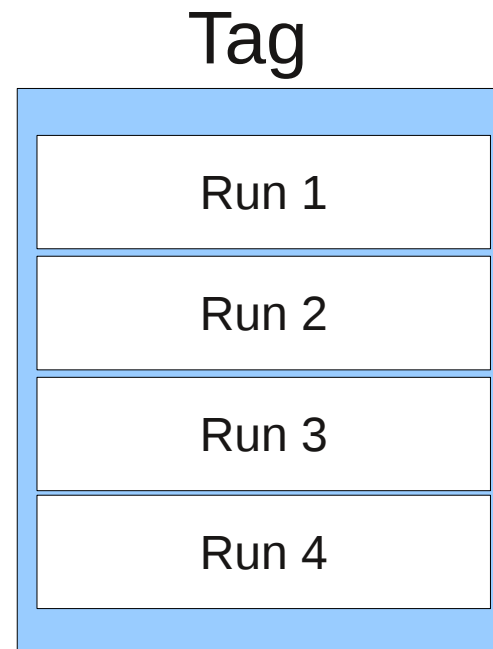
The bottleneck: Online to Offline transfer of conditions (O2O)

- The **online database** is used to **configure the Tracker**
- The **offline database** is used by the **reconstruction software**
- The two **must be in sync** → O2O
- The O2O is triggered whenever the Tracker is reconfigured and the new conditions are uploaded to the offline db
- This takes **~ 20 minutes**
 - Put in the reconfiguration time and 1 hour is not enough to switch back and forth and take some cosmics

Conditions in the offline db

- A tag is a collection of conditions with different intervals of validity (IOV)
- The O2O uploads the conditions appending them as the last IOV
- When an O2O is done a **unique identifier string** is saved in the **log db**

The last IOV is open
and valid till infinity



Proposed Solution

- When doing a switch we are not transferring new conditions, they are **already in the offline db**
- One needs only to check if the same conditions were uploaded in the past
 - Use the unique string in the log db
- If they are there, **no transfer is done** and a new IOV is opened linking them!

