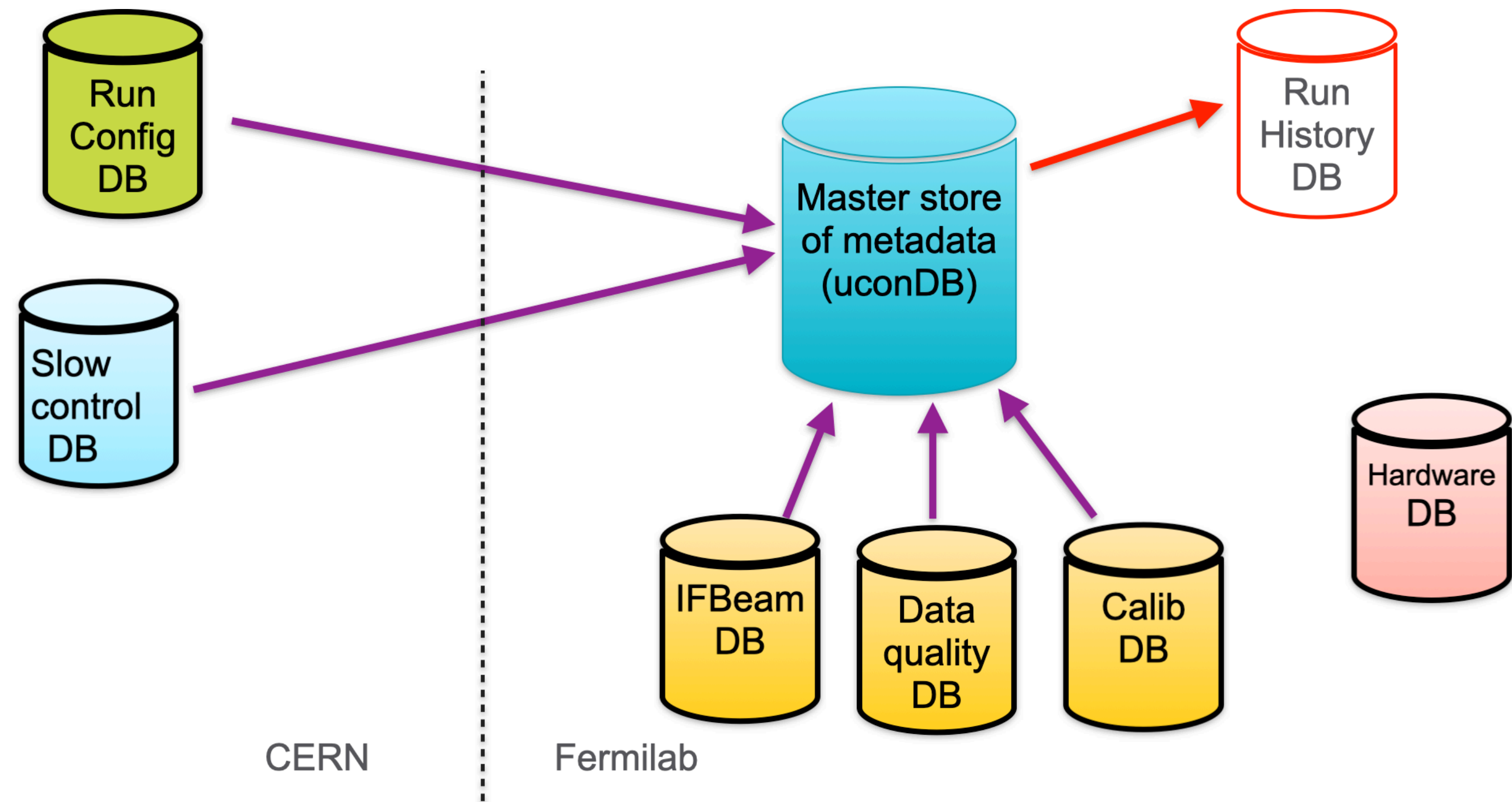


# Master store of metadata updates IFBeam DB

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# IFBeam DB

- **Goal:** extract data of 'selection of devices' from the IFBeam and send it to the uconDB
- The DB can be accessed via a web interface: <https://dbweb8.fnal.gov:8443/ifbeam/app/>

## IF Beam Data Server

Home | Data Access | Data Browser | Dashboard | Event Monitor |

### Data Browser

Event frequency plots

Show device

Event: z,pdune

Name: XBPF022708

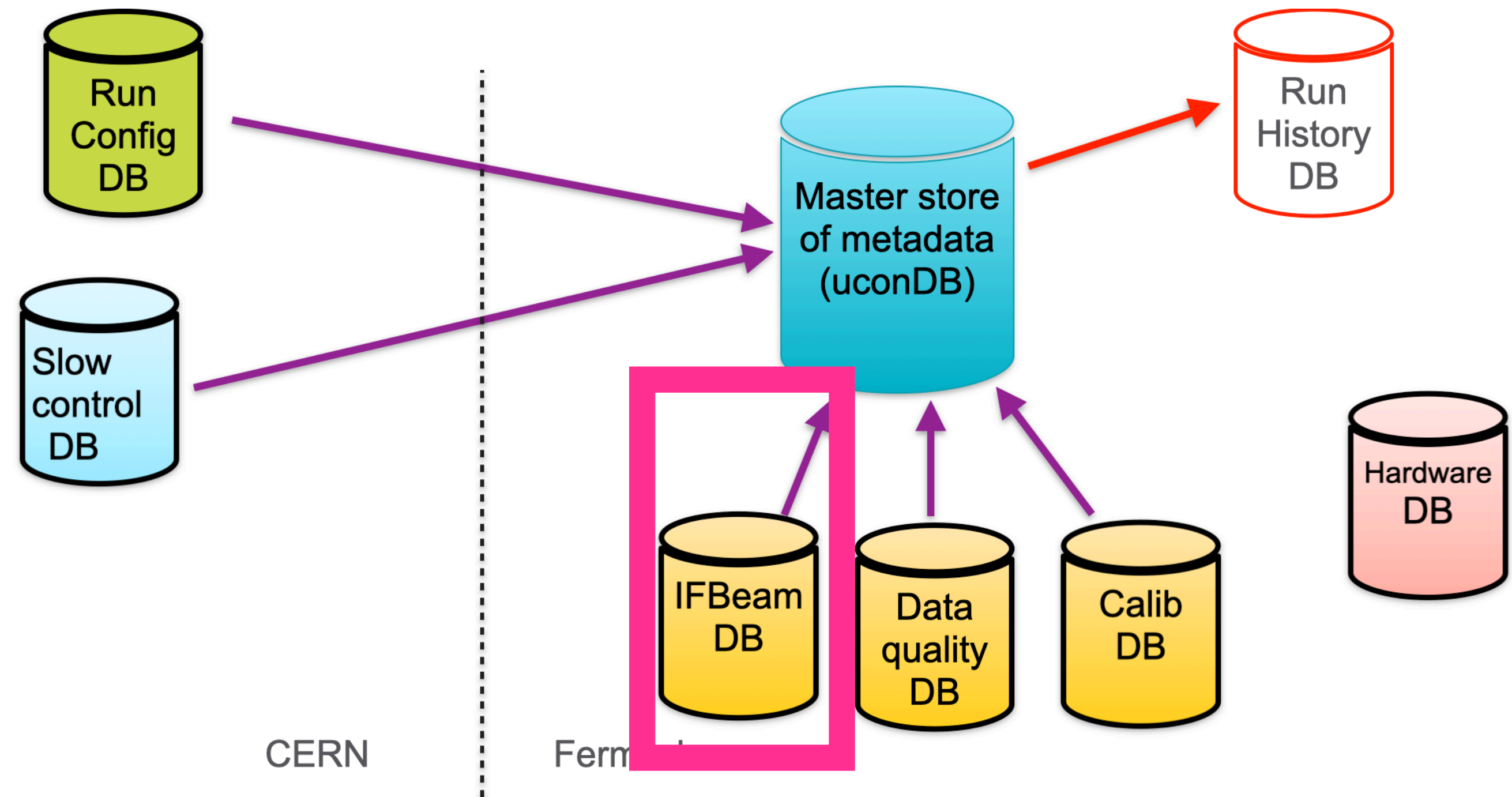
From: -5d

To: now

Format: html  hex format for ints

Show times in time zone: Local (US Central)

Show device



# Bundles from the IFBeam data server

- The bundles from the IFBeam contain a list of devices
- Devices from two different bundles are currently used in ProtoDUNE analysis
- Devices can appear in more than one bundle

Bundle Name	Event	Device Count
DUNE_CERN_DATA	z,pdune	168
DUNE_CERN_NORTH	z,pdune	104
<u>DUNE_CERN_SEP2018</u>	z,pdune	304
DUNE_CERN_SEP2018_ANALYSIS	z,pdune	43
DUNE_CERN_SEP2018_AUX	z,pdune	93
DUNE_CERN_SEP2018_PROF	z,pdune	176
<u>DUNE_CERN_SEP2018_TIMBER</u>	z,pdune	8
DUNE_CERN_SEP2018_TOF	z,pdune	35

# List of channels/devices

- Names of the devices have the form of (prefix + :device)
- Some are self explanatory, but not all

To-do:

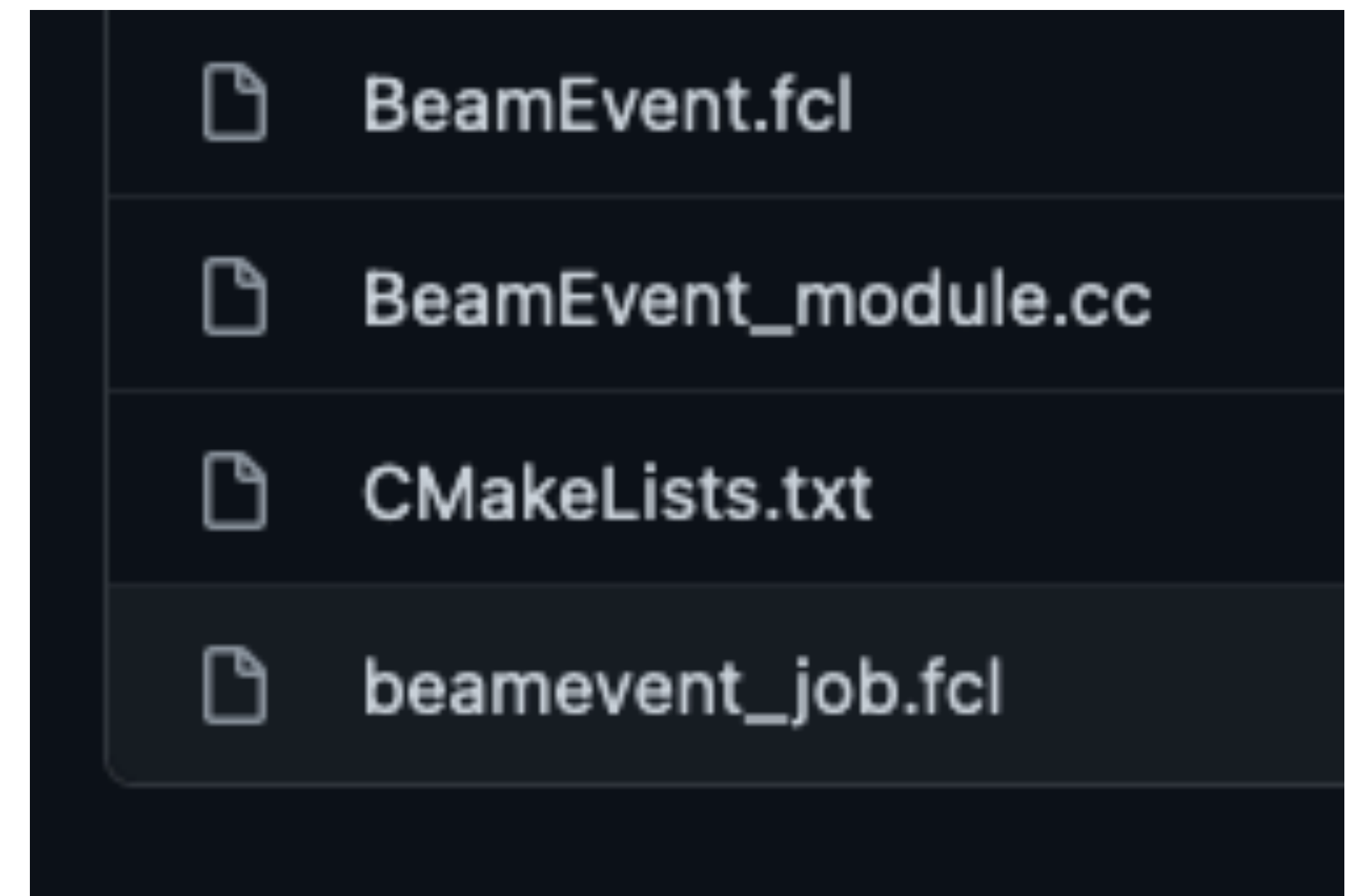
- Find someone that knows the format and the meaning
- Use the **same format in the UConDB**

Select Devices for Deletion



- |   |   |  |
|---|---|--|
| <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022697:countsRecords[]    | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022697:eventsData[] | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022698:countsRecords[] |
| <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022708:countsRecords[]    | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022708:eventsData[] | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBPF/XBPF022716:countsRecords[] |
| <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBTF/GeneralTrigger:timestampCount | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBTF/S11:coarse[]            | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XBTF/S11:frac[]                 |
| <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XTOF/XBTF022687A:frac[]            | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XTOF/XBTF022687A:seconds[]   | <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XTOF/XBTF022687B:coarse[]       |
| <input type="checkbox"/> dip/acc/NORTH/NP04/BI/XTOF/XBTF022716B:seconds[]         | <input type="checkbox"/> dip/acc/NORTH/NP04/POW/MBPL022699:acqStamp[]       | <input type="checkbox"/> dip/acc/NORTH/NP04/POW/MBPL022699:current             |

# Extract data via art module

- There is a DUNE ‘produce module’ that extracts information from the IFBeam. Some of the BeamEvent\_module characteristics:
  - It **extracts data for each event**, within a 120s time interval
  - It needs an **input and output root file**
  - Besides extracting data it also **does analysis**
  - It has **35 IFBeam devises/channels** that are used in the analysis
  - <https://github.com/DUNE/duneprototypes/tree/2e49af61ffe6da974f6cf9c508de8796e3c12df5/duneprototypes/Protodune/singlephase/>



# Creating a new art module

- IFBeam extractor module characteristics:
  - Used just for IFBeam data extraction and not analysis 
  - Data extraction from customizable time interval instead of per event 
  - Input and output CSV files instead of root files - not trivial since art is used to process events
  - Extract data from all the 35 IFBeam devices/channels that are used in the analysis, maybe include other devices

## The art Event Processing Framework

*art* workbook

Where to begin?

# Next steps

- Follow art documentation on how to write your own input sources
- Create input files, with time intervals or channels, to extract data
- Create CSV output files
- Settle on the list of devices
- Send IFBeam data to the UconDB

# Thank you

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