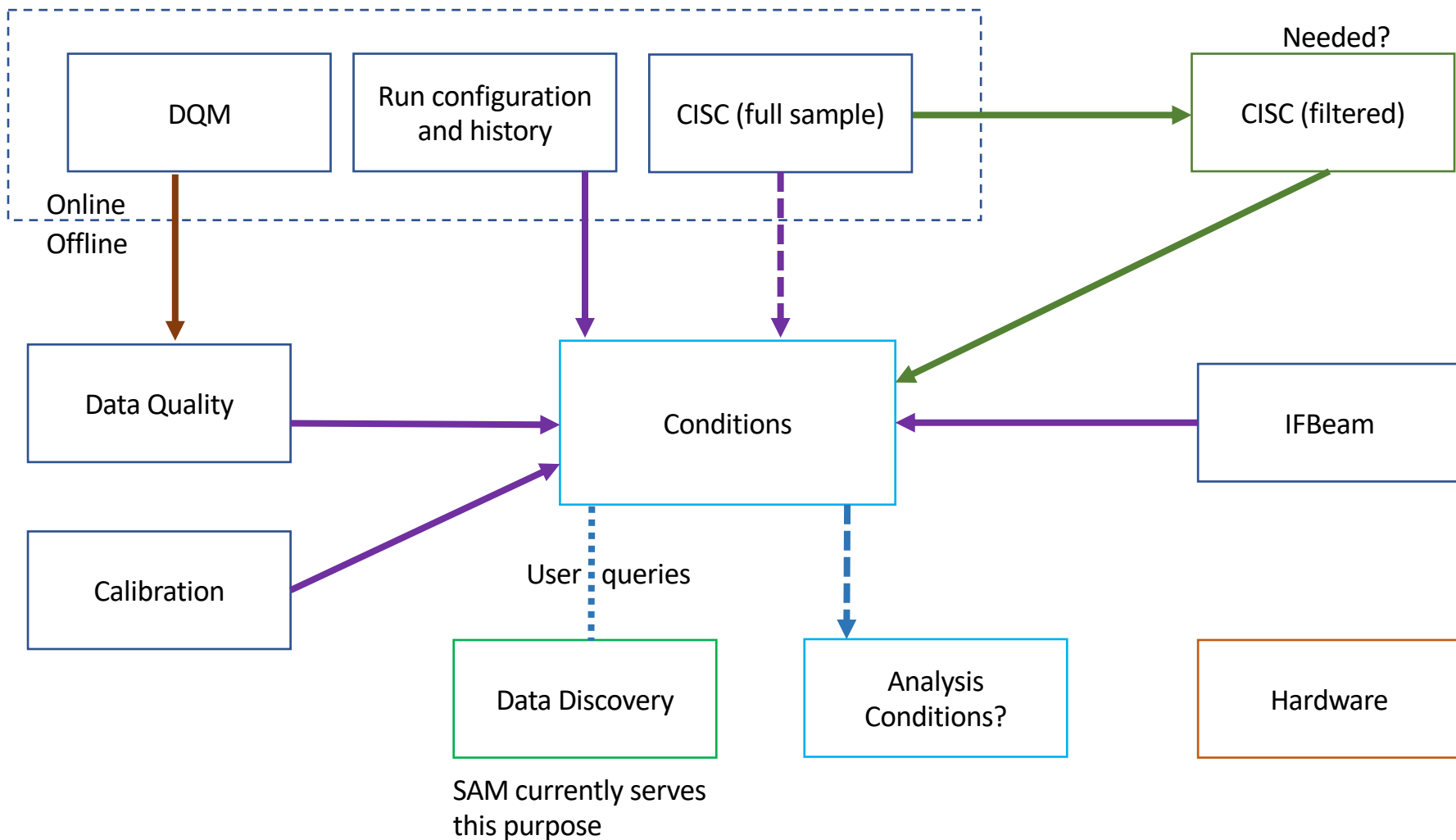


DUNE Database Workshop Summary

*DUNE Core S&C Meeting
Dec 16, 2019*

Database Design (proposed)



More study and discussion needed to converge on design.

Lessons Learned (Jon Paley)

Jon had many good points about avoiding some pitfalls (some highlights):

- Defining interfaces early – during design stage not as afterthought
- Aim for integrated DB design – this means early planning
- Build the DB team early

One broader point that came up was the lack of resources for computing and “core” software like databases.

- Appealing to the EB was floated

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Hardware DB(Maxim and Hajime)

Responses to survey sent to consortia leaders

- 7 responses
- Details were light – TPC electronics gave some numbers but no one else did
- Continue to push on the consortia – hopefully draft requirements will help

Maxim proposed alternate approach allowing greater flexibility

- Decision made to proceed with current approach used for protoDUNE I for protoDUNE II and leave possibility open for alternate approach for DUNE.
- Significant input coming from DAQ and calibration system groups which was nice
- Stakeholder list was put together so we know who to lean on for ensuring we have everything we need to develop (and review) hardware DB requirements.
See:
https://docs.google.com/document/d/1FEho78wmke_2RsSfM7JRRPPNxYy87W_WloCbGD6ZORU/edit
- Requirements first draft generated (input from documents provided by Norm, Jim, and Maxim + discussion: <https://docs.google.com/document/d/19z1mH-rk56giZrPH6HgkNUbNtQ0leaNmzQULdAGnEYQ/edit>)

Conditions DB (Paul and Igor)

Paul discussed his experience with similar DBs for ATLAS and Belle II

- ATLAS experience led to more lessons learned – big one was loss in expertise
- HSF/Belle II approach relevant to DUNE

A lot of discussion on differences between Belle II and uconDB (protoDUNE I) approaches

- Closer to understanding differences – more discussion needed here
- Need use cases to determine structure of conditions DB
- Stakeholder list also put together for conditions DB – need use cases from offline users especially.

Calibration and CI system DBs (Nuno and Chuck)

First sorted out confusion between these DBs and Off-line calibration DB

Discussion of where hardware calibration DB

- Consensus was largely that the calibration system information (“data”) should go into slow controls DB
- Rate of writing can be as high as 10 Hz which should be doable.

Data Discovery DBs (Igor)

Igor presented a tool for potential use as metadata catalog to work with Rucio

- Could work with Rucio or any other replica manager
- Igor presented a demo and there was a lot of discussion

Executive Summary

Meeting was about the perfect length and level of detail for where we are now

Progress on a number of fronts – most immediate is the roadmap to having an approved set of hardware database requirements

Initiated discussion on other fronts as well

Starting to plan a 2nd workshop on the June timescale at central location (FNAL?)