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WIR SCHAFFEN WISSEN – HEUTE FÜR MORGEN

EIGER2 X 16M at PSI

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Beamlines

X06SA

- Eiger X 16M
- 5 - 100uM beam
- single axis
- 16 node cluster

X10SA

- Eiger2 X 16M
- 10-75 uM beam
- single axis
- 24 node cluster

X06DA

- Pilatus 2 MF
- 50x80 uM
- multi-axis prigo
- 7 node cluster

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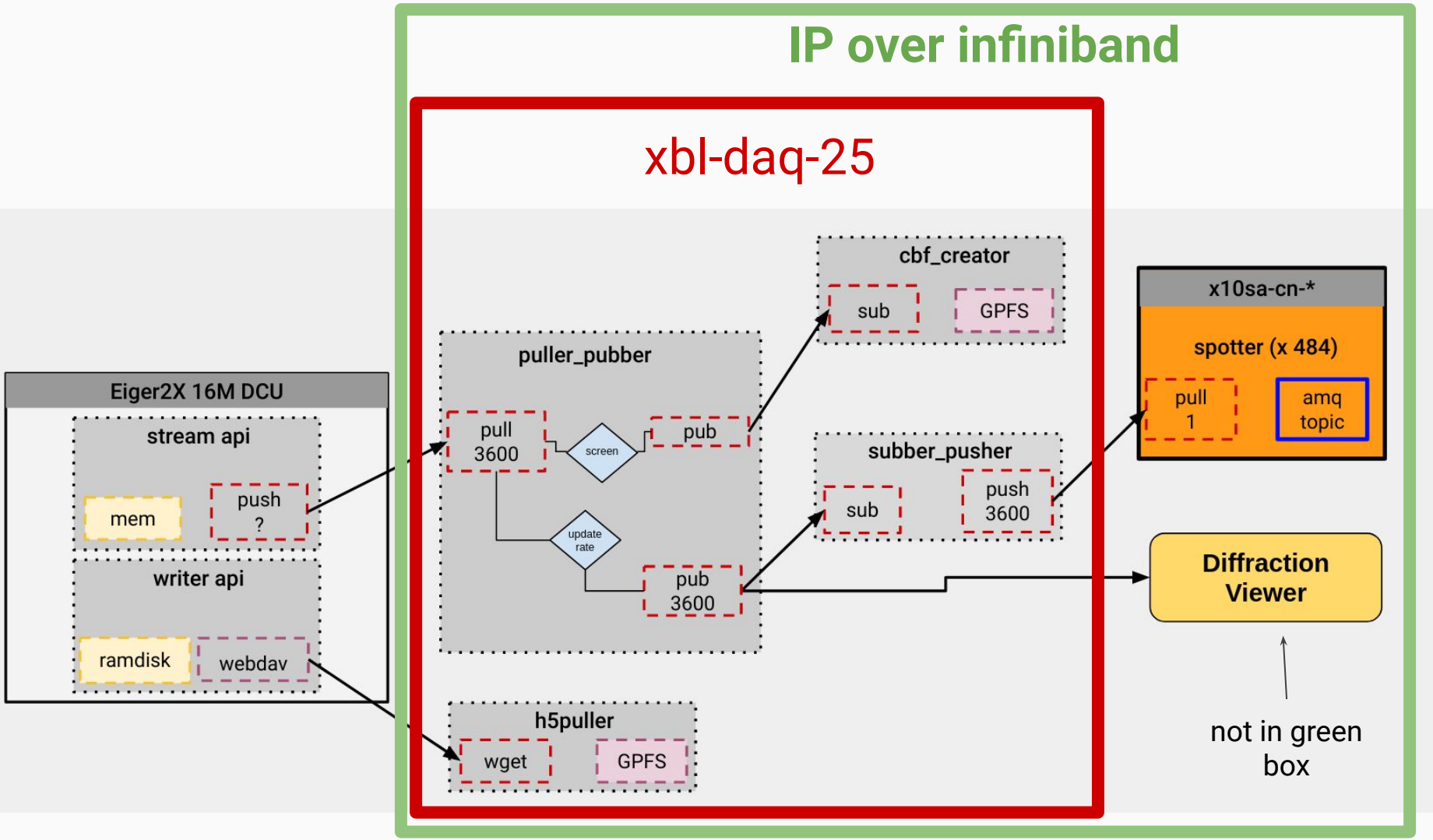
Data pathways



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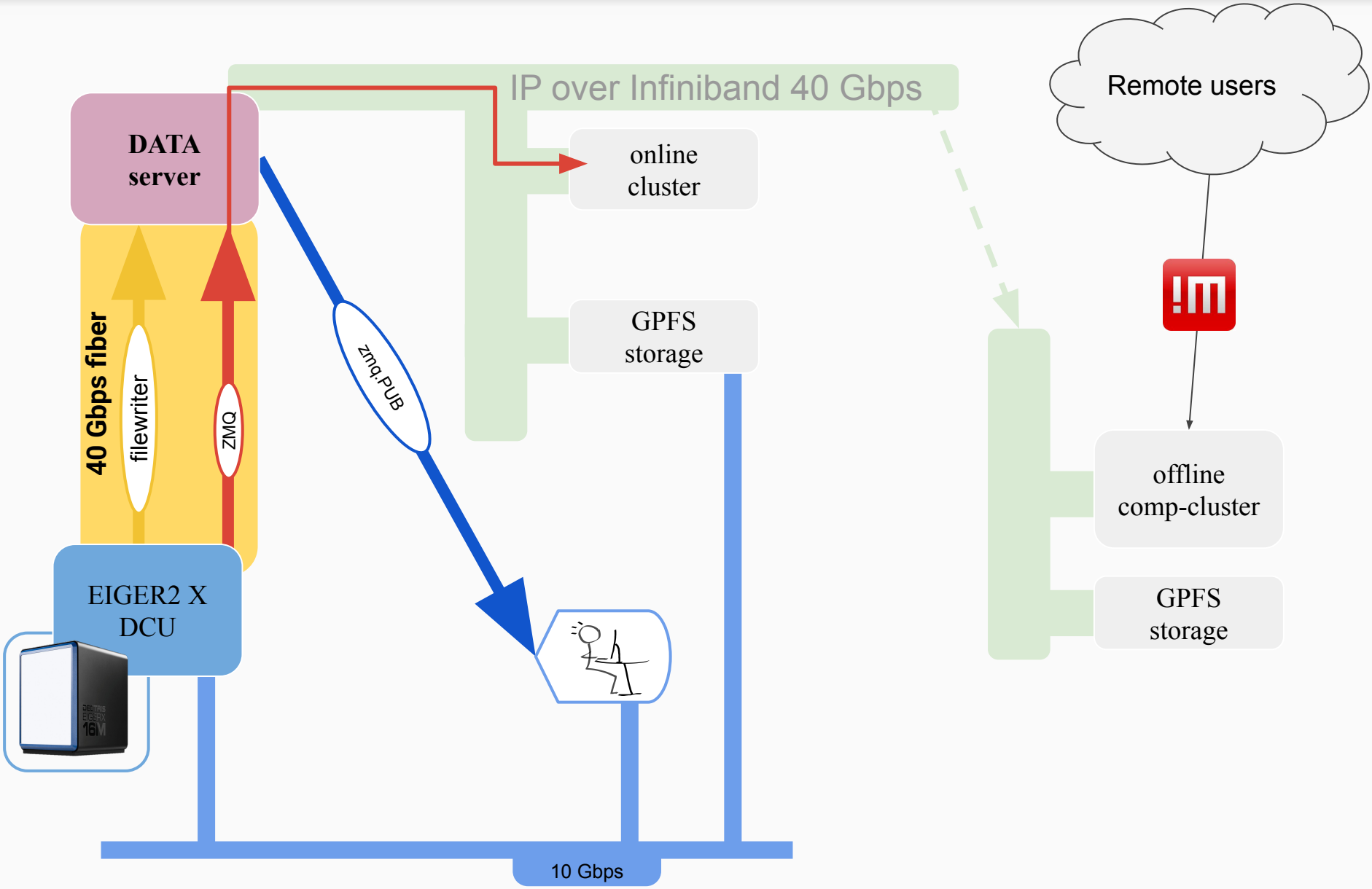
Hardware infrastructure



Eiger2 summary

- In operation since August 12, 2019
- roughly 8 weeks of user operation
- Total number of datasets: **4858**
- average parameters from our DB
  - Osc. Angle: **0.25**
  - Total Frames: **1373**
  - Exposure Time **0.14**
- Increased use of serial crystallography in solid support
  - raster, identify micro-crystals, collect small wedge (10 deg)
- online monitoring of dataset collection with spotfinder

EIGER2 X 16M at the SLS

- auto processing via in house pipelines via ADP
  - fast, smaller wedge
  - full
- ADP tracker – HTML5 app to track automatic data processing
- **CBF for screening images (max. 20 frames)**

Hardware Infrastructure

- Computing for EIGER2 X 16M
  - Online-Cluster: **24 nodes**: Intel(R) Xeon(R) Gold 6152 CPU @ 2.10GHz, **22 cores (44 with hyperthreading)**, 392GB RAM, REDHAT 7.6
    - Data reduction
    - Spot finding (raster)
  - Offline-Cluster: **32 nodes**: Dual Xeon E5-2690v3 (2.60 GHz), 256GB ram, Scientific Linux 7.0
    - MX software
    - graphics available via nomachine

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- Storage
  - IBM GPFS
  - 1.2 PB Total SLS
    - **2.5 PB in 2020**
  - 545 TB for all MX beamlines
    - **to double in 2020**
- User console
  - 10 GBps network
  - GPFS access
  - improves 16m loading and display for user inspection

Data retrieval options

- rsync
  - Usage increasing
- External hard drive
  - Most used method
- Automatic data backup to the *Swiss National Supercomputing Center* in Lugano, in **2020**
  - metadata available via web interface
  - https://www.psi.ch/en/science/psi-data-policy
- GlobusOnline