



HDRMX & Eiger

Update on using 4M ROI with the EigerX 16M

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EigerX 16M at the SLS

- most users still using
 - 0.1°, 0.1s per frame
 - 180-360° total range
- auto processing via in house pipelines via ADP
- **ADP tracker – HTML5 app to track automatic data processing**
- users do not complain about data volume after bs-lz4 compression

Data retrieval options

- GlobusOnline:
 - www.globus.org
 - Hardly used by MX users
 - Proprietary customers need to pay
- rsync + ssh
 - Usage increasing
- External hard drive
 - Most used method

- Computing (end of year)

- Online-Cluster: **16 nodes**: Dual Xeon E5-2697v4, **36 cores**, 256GB ram, **Scientific Linux 7.0**

- Data reduction
- Spot finding (raster)

- Raster-Cluster: 3 nodes: Dual Xeon E5-2697v2, 24 cores, 256GB ram, Scientific Linux 6.4

- 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 nomenclature

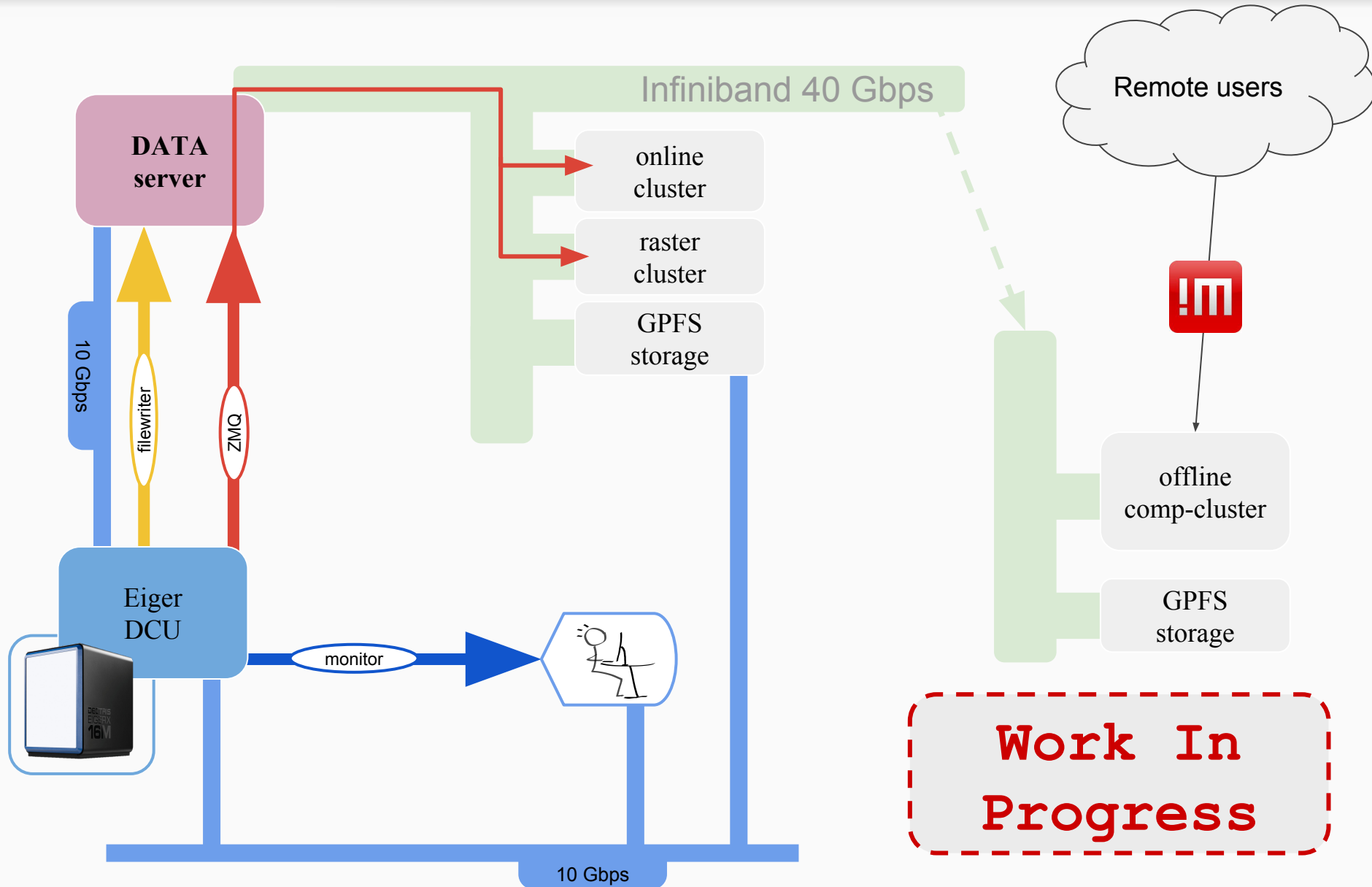
- Storage

- IBM GPFS version 4.1
- 1.2 PB Total
- 175 TB for all MX beamlines

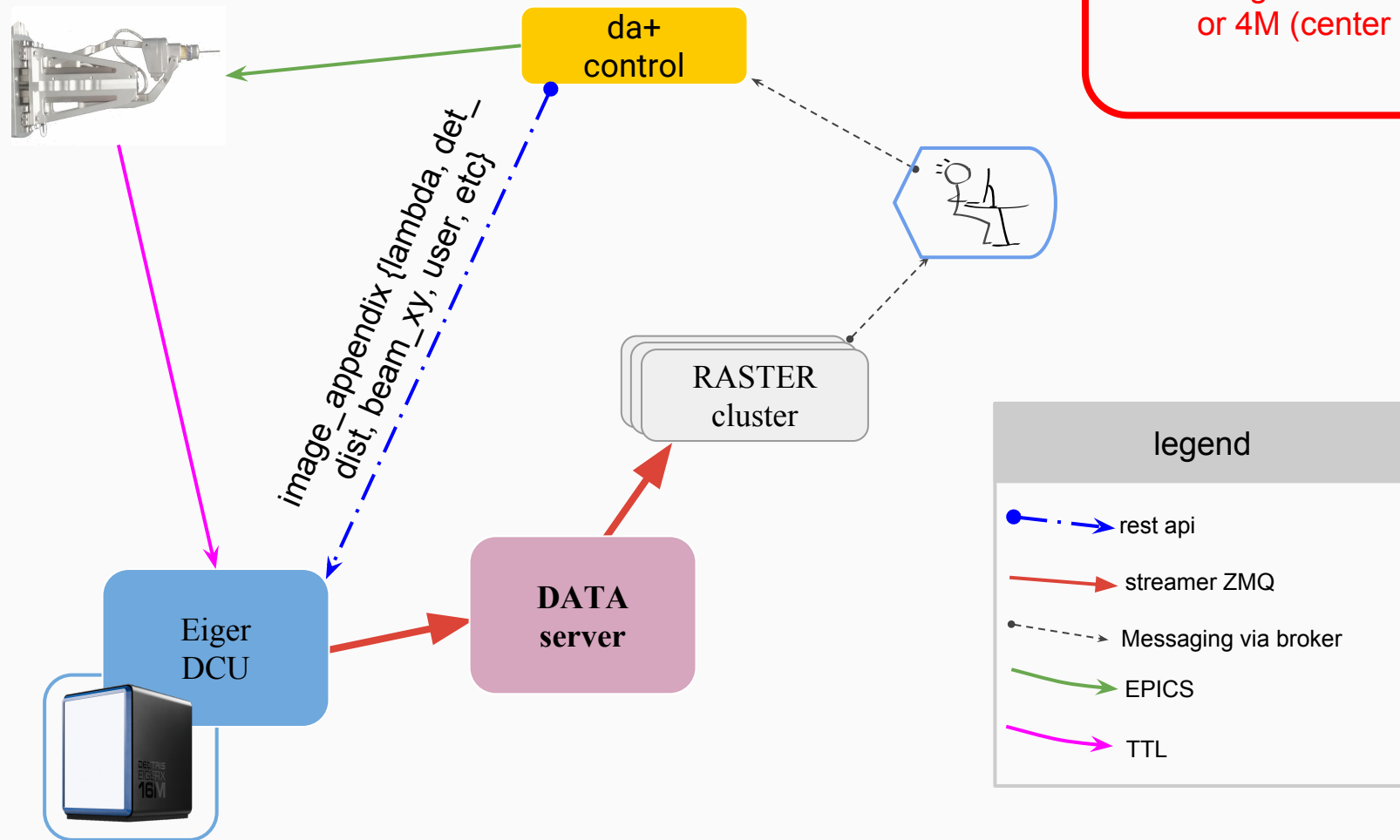
- User console on 10 Gbps

- improves 16m loading and display for user inspection

Hardware infrastructure – soon



Data Pathways – stream



PROS

- faster rates without bandwidth compromise
- no image loading lag in diffraction viewer during grid scan interactive inspection

CONS

- smaller area $\Rightarrow$ high resolution spots not always measured (2 Å res. @ 140mm @ 1 Å wavelength)

CURRENT USAGE

- grid scanning – automatic usage of 4M for all rastering unless user prefers 16M
- not yet used for actual datasets as we did not have the time to assess our data reduction pipelines and conversion to CBF

USER RECEPTION

- well received by most users as it makes the interactive inspection much more efficient
- some users complain of not being able to assess diffracting power together with raster due to the reduced detector area
- overall seen as an improvement

Justyna Wojdyla – automatic data processing

Jakub Kaminski – MX database and its accompanying web application

Dmitry Ozerov – cheetah peakfinder8 python package as option for spot finding

Simon Ebner – Streaming infrastructure

Dectris – for this very nice detector and how quickly it addressed our urgent issues

Leonardo Sala – for the data retrieval setup

Heiner Billich – the hardware infrastructure

MX Team – for spending nights during test shifts trying to understand how to cope with this detector

Our **very** patient users who were willing to suffer LZ4 compressed datasets in the beginning.