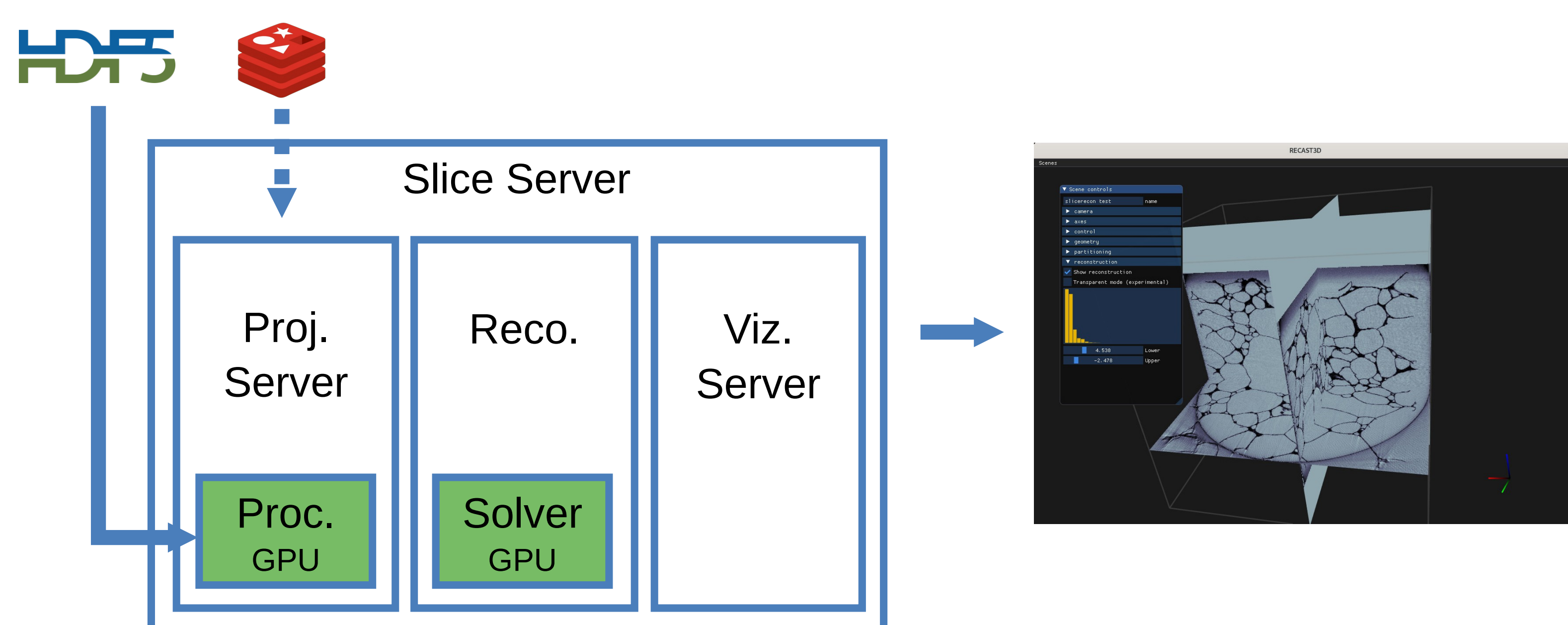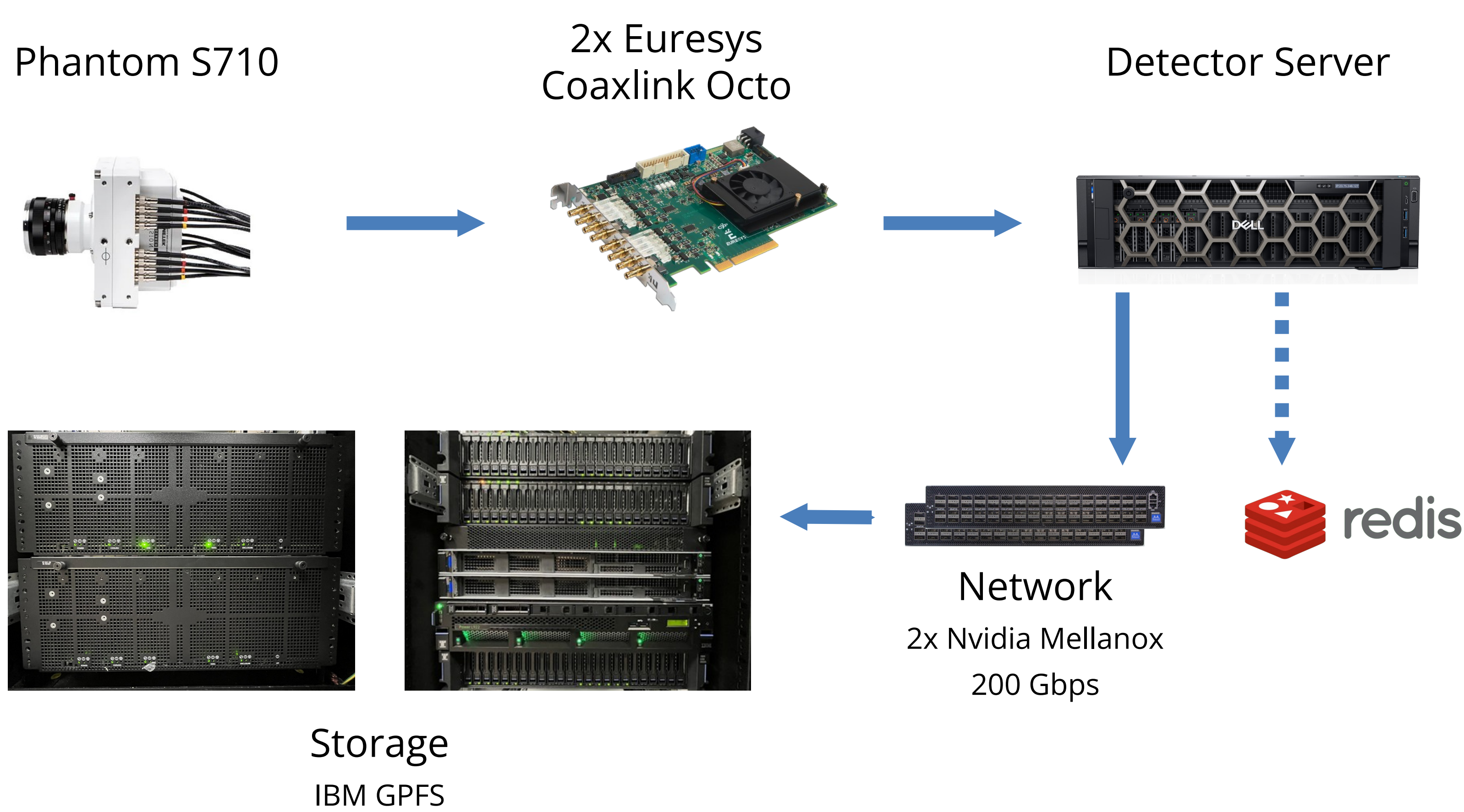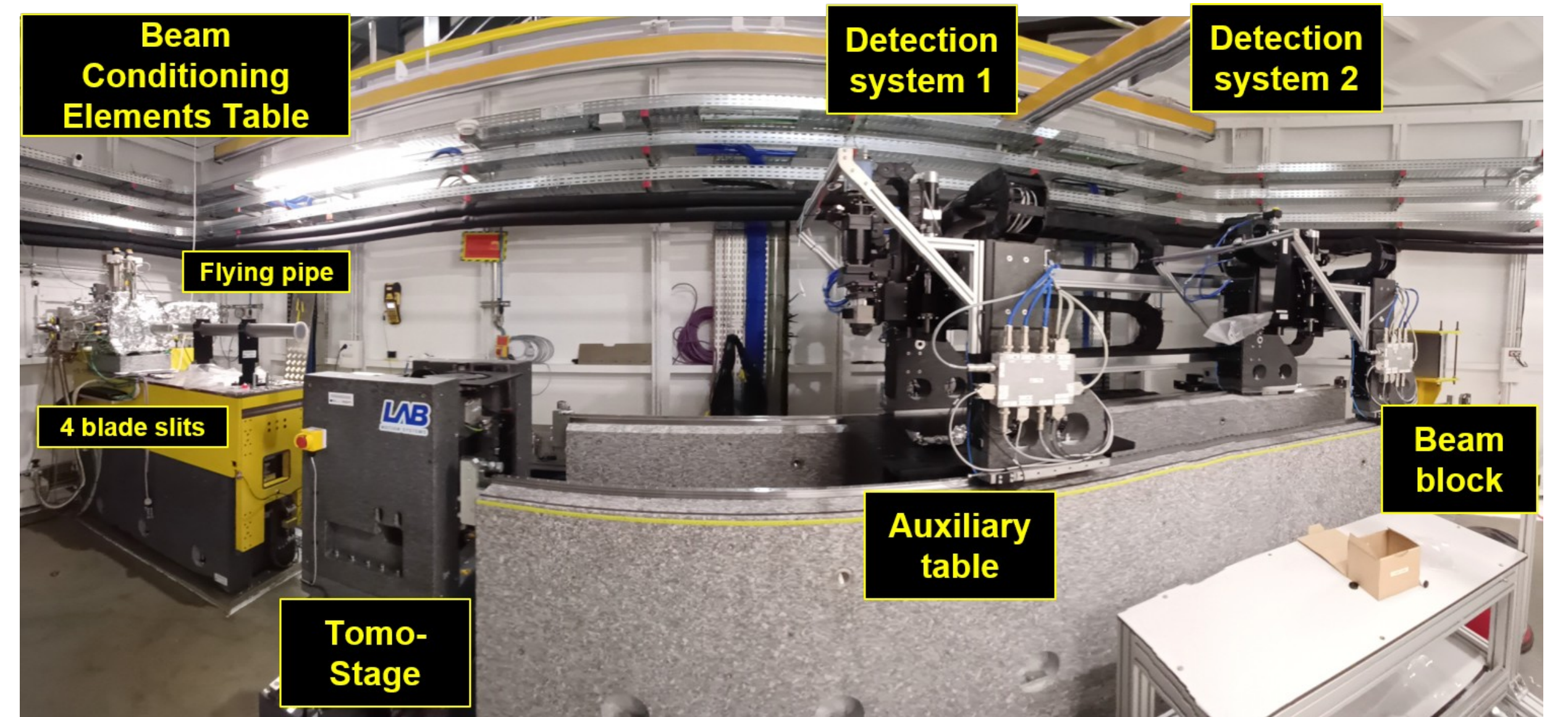# FaXToR data processing

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FaXToR: FAst X-ray Tomography and Radioscopy Beamline.

Very versatile beamline with resolutions up to 1 µm at its early stage, FaXToR is capable of taking 15 tomographies per second, allowing in-situ / in-operando measurements.

First users are coming in 2025.

Phantom S710

2x Euresys Coaxlink Octo

Detector Server

Storage
IBM GPFS

Network
2x Nvidia Mellanox
200 Gbps

Slice Server

Proj. Server

Reco.

Viz. Server

Proc. GPU

Solver GPU

Provided with fast storage, data acquisition and data processing, the beamline can offer on-the-fly data reconstruction and visualization with a refresh period of 330ms.

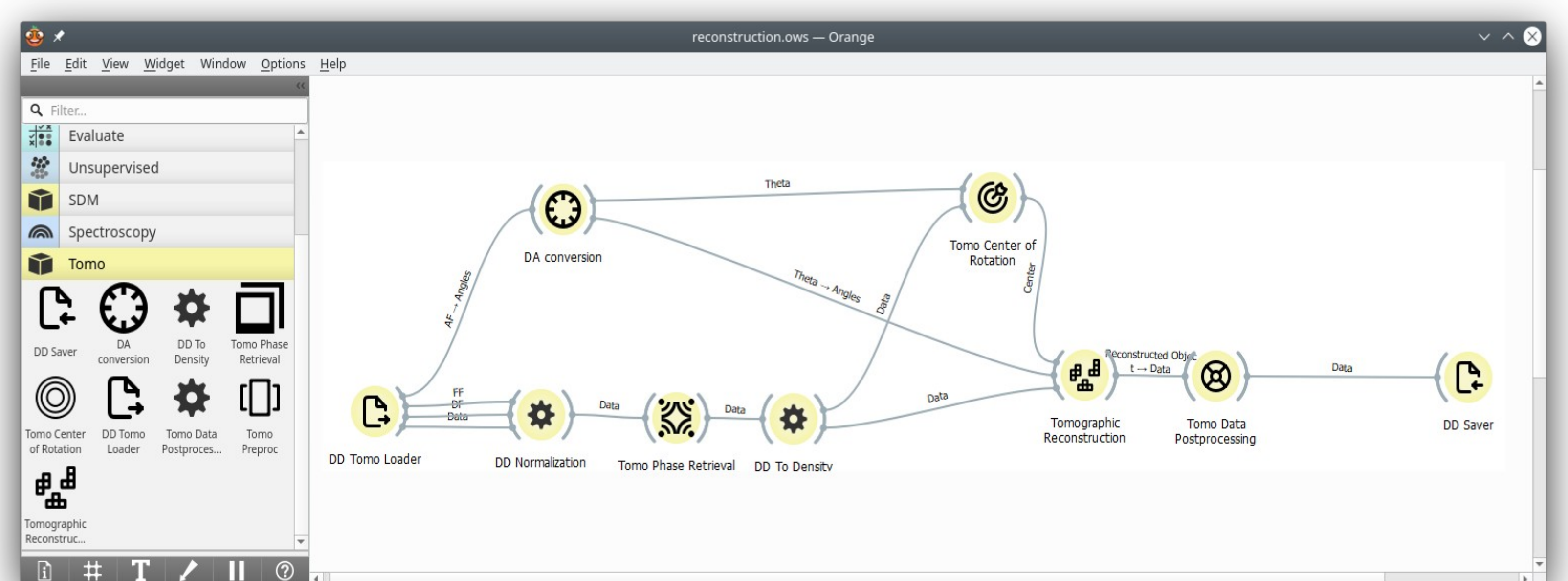Phantom S710 data is stored in bunches of 360 projections at 9 GB/s.

The projection server loads data to GPU and generates the sinogram in 270 ms. Slices of 1280x1280 pixels are reconstructed in 12 ms and sent to the visualization workstation.

Overall latency is estimated to be less than a second with a visualization rate better than 3 Hz.

Friendly user interface has been developed using Orange to define and configure reconstruction workflows.

Each task in the workflow is executed with Dask on our Slurm HPC cluster.