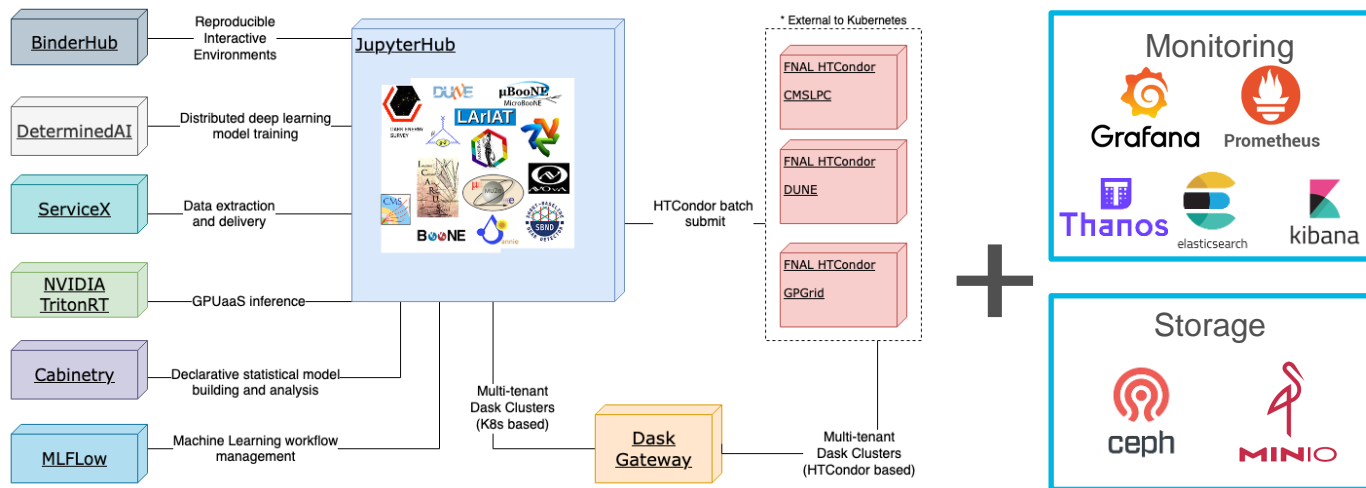


# The Elastic Analysis Facility (EAF) at Fermilab

- EAF is a **multi-VO** analysis facility serving CMS, Neutrinos/Muon experiments, Accelerator science and Astro physics groups collaborating at Fermilab.
- Facility is **open to all Fermi services account users** onsite or connected to the Fermi network via VPN or SOCKS proxy.
- A homogeneous deployment layer in Kubernetes facilitates the use and access to a pool of large, **specialized software and hardware**.



# What does a CMS user get on EAF?

- 25 GB cross-notebook **persistent area** for user storage and 40 GB **scratch** space for GPU runs
- Up to 3 'named servers' **running concurrently**, sharing persistent areas
- **CVMFS mounts**: cms.cern.ch, cms-lpc.opensciencegrid.org, oasis.opensciencegrid.org, unpacked.cern.ch
- **HTCondor remote job submission** to the CMS LPC analysis pool
- Central lab **user home areas and LPC NFS mounts**: /uscms/home, /uscms/data1-3, /uscms/scratch

The screenshot shows the JupyterHub interface with the following server options:

- CMS**: CVMFS, HTCondor, COFFEA. Configurations: CPU Interactives (SL7 COFFEA-Dask), NVIDIA A100 GPU (SL7 - 10GB GPU slot).
- DUNE**: LBNF DUNE/ProtoDUNE, DEEP UNDERGROUND, NEUTRINO EXPERIMENT. CVMFS, LarSoft. Configurations: CPU Interactives (SL7 Vanilla), NVIDIA A100 GPU (SL7 - 20GB GPU slot).
- FIFE**: LBNF DUNE/ProtoDUNE, FIFE. CVMFS Neutrinos/Mu2e/gm2. Configurations: CPU Interactives (SL7 Vanilla), NVIDIA A100 GPU (SL7 - 10GB GPU slot).
- JARK MATTER**: Astro/Cosmic Frontier. CVMFS, LSST kernel.
- ACORN**: ACORN. ACSYS python, Fortran.

- Access to our full applications ecosystem including **TritonRT**, **MLFlow**, **ServiceX**, **Dask and more**. Our demo runs v1.4.0 of the AGC.
- EOS client, Xrootd (uproot), xCache and gfal tools for remote data access.
- In-notebook **resource usage monitoring** and Grafana metrics dashboard.
- Access to 8 A100 GPUs segmented into 30 multi-instance GPU partitions.