OSCARS
Open Science Clusters' Action for Research & Society

ETAP - Einstein Telescope Analysis Portal

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Implemented by

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GWSC | GRAVITATIONAL WAVE SCIENCE CENTER

What problem(s) did you plan to solve?

- Prototype Virtual Research Environment for Einstein Telescope

  - Package and deploy the Virtual Research Environment (VRE) developed at CERN

  - Deploy at UniGe, with the exception of Data Management (MADDEN) and IAM (ET)

- Expand VRE Data Lake to access multiple RIs

  - Adapt Rucio client configuration to be multi-RI and connect to MADDEN

  - Seamless interoperability, server-side development taken care of in MADDEN

- Add the HEP Software Foundation's (HSF) metadata database:

  - Manage metadata based on LHC experiment best practice

  - Provide generic helm chart (packaging), add multi-RI support (lightweight client)

- Add Monitoring and Accounting for REANA and the VRE

  - REANA is the Reproducible Analysis system developed at CERN

  - Monitoring and accounting to quantify computational needs of GW analysis codes
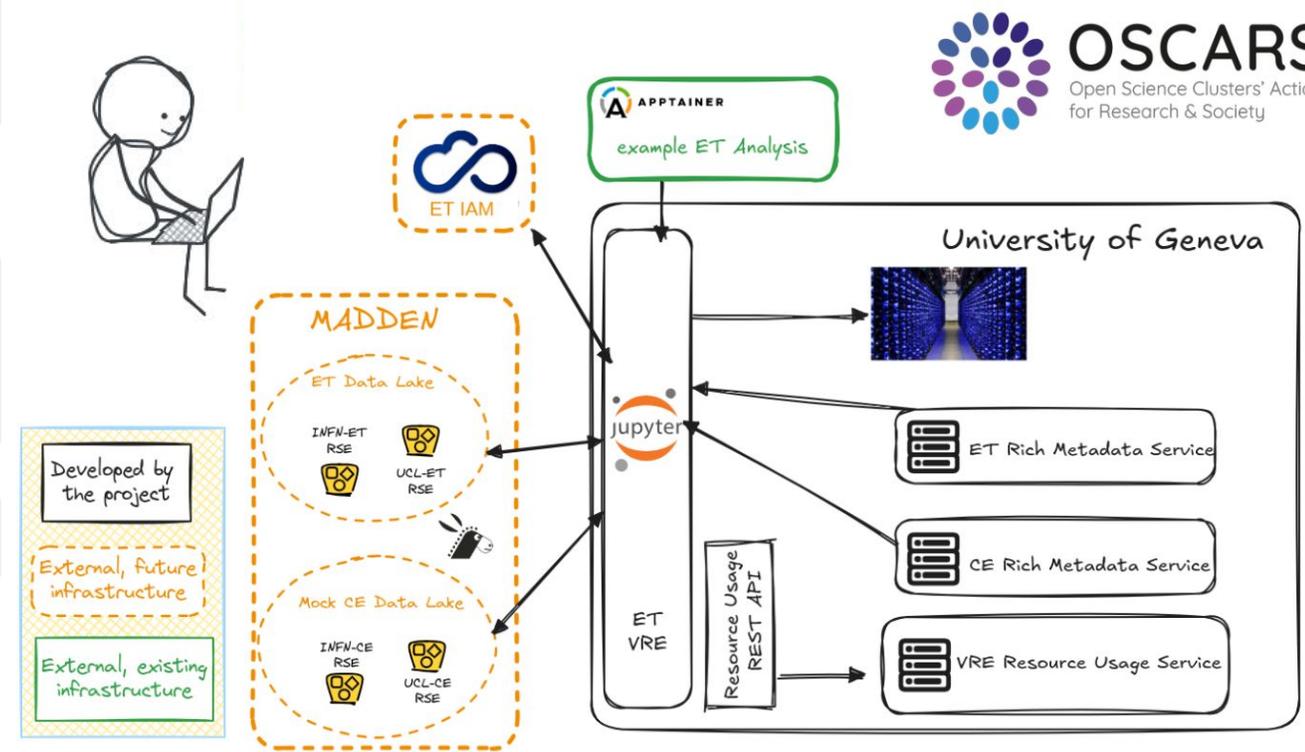
What have you done to solve the problem?

At UniGe, deploy on k8s:
- Jupyterhub
- REANA
- HSF Metadata DB
- Monitoring and accounting
- Managed with GitOps/flux

Connected to:
- Indigo IAM@CNAF (ET)
- MADDEN@Torino

What are the key results achieved to date and how have you made them available to the broader community?

- Delivered integrated helm chart
  - Based on CERN ESCAPE VRE
  - Jupyterhub, REANA and monitoring services (new) deployed with a single helm chart
  - Includes boot-strapping of REANA installation
  - Includes Resource Monitoring
- Deployed production ETAP instance, started Science Run for ET in progress with beta tester
  - Connected to MADDEN to access ET Mock Data Challenge datasets
- Next steps in progress:
  - Finish documentation
  - Finish Science Run
  - Developing generic HSF Metadata DB helm chart and lightweight python client

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How will make your results sustainable over time - How will the scientific community/-ies further exploit them?

Cross-coordination and agreement with CERN teams

- The integrated helm chart is part of the CERN VRE repo

HSF metadata DB (conditions DB) used in production by several experiments, supported by BNL

- Attracted interest from other communities, making this available through the VRE and adding generic helm chart and client lowers the barrier for using this service
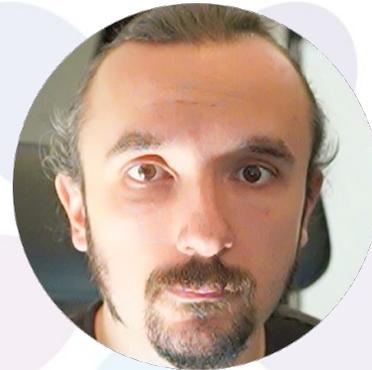
Science run provides a baseline for ET Mock Data Challenges needed to baseline ET computing needs

- Stress-test of a multi-RI VRE, experience and improvements will continue to be integrated in the CERN VRE repo

Who has been doing it?

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