



ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

ESAP & CONCORDIA Update

Gareth Hughes



CTA Use Case for ESAP & CONCORDIA ([link](#))

1. User navigates to the ESAP
 - a. logs in
 - b. x509 certificate found/read
 - c. recognised as an ESCAPE & CTA/KM3NeT member
2. Navigate to CONCORDIA page
3. They are able to configure a container
 - a. if the container exists it is selected
 - b. if not it is created
4. The job is then submitted
 - a. proxy-init
5. The job can be monitored
6. Results and logs can be accessed/downloaded



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- Most of this is easy
- The problem is the x509 reading
- Should be read from IAM SCIM
 - So far no luck
 - Have spoken to Andrea Ceccanti
- Might have to edit the DIRAC init script?



3. They are able to configure a container

a. if the container exists it is selected

b. if not it is created

- Can we embed the CONCORDIA GUI?
 - Don't want to double the work
- The dirac_production [scripts](#) can be easily added to the ESAP code
- Where would we store the images?
 - ESAP provides no storage or compute
- A simple version is easy to code (see later)



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- I can submit jobs
- Monitoring should be easy
 - but need to learn more React/Django
- Not sure where/how to download results
 - in the dream world we would use the datalake



- ESAP is python 3.9
- There we need to use DIRACOS2
- I have created a container that can run both ESAP backend and DIRAC
- DIRAC “archive” has been added to homepage, but this is not the final plan



The screenshot shows the ESAP homepage with a dark header bar. The header contains the ESAP logo, navigation links (Archives, Interactive Analysis, IVOA-SAMP), and a user login/logout button for Gareth Hughes. Below the header, there are six main content blocks, each representing a different data archive or service:

- WSRT-Apertif**: Features an image of a radio telescope. Text: "Apertif Surveys. Data from the Apertif surveys include imaging and time-domain data. The time-domain products consist of high-time resolution filterbank data in the PSRFITS standard. The imaging data products include the raw observations in the measurement set (MS) standard format. In
- ASTRON VO**: Features the ASTRON Virtual Observatory logo. Text: "ASTRON Virtual Observatory. The Virtual Observatory defines a set of standards that can be used to download astronomical data. The ASTRON VO contains several image surveys, which are images in the FITS format. Since the VO is currently under development, more data
- Zooniverse**: Features a logo of a magnifying glass over a globe. Text: "Zooniverse Classification Database. The Zooniverse is the world's largest and most popular platform for people-powered research. This research is made possible by volunteers — more than a million people around the world who come together to assist
- RUCIO**: Features the RUCIO logo (a stylized rabbit head). Text: "Rucio. Built on more than a decade of experience, Rucio serves the data needs of modern scientific experiments. Large amounts of data, countless numbers of files, heterogeneous storage systems,
- ZENODO**: Features the Zenodo logo. Text: "Zenodo. Built and developed by researchers, to ensure that everyone can join in Open Science. Visit ZENODO Archives
- DIRAC**: Features the DIRAC logo. Text: "DIRAC WLM. Visit DIRAC Archives



DIRAC Query

image

Jobs

Showers

First Run #

HE Interaction Models

LE Interaction Models

Array

Submit

esap-gui version 8 oct 2021 - 15:30

```
1 {'JobID': 18359684, 'OK': True, 'Value': 18359684, 'requireProxyUpload': False,
2   'rpcStub': [['WorkloadManagement/JobManager', {'delegatedDN': None, 'delegatedGroup': None, 'timeout': 600,
3   'skipCACHeck': True, 'keepAliveLapse': 150}], 'submitJob', [[' \n    Arguments = "jobDescription.xml -o LogLevel=INFO";\n
4   CPUtime = 500;\n    Executable = "dirac-jobexec";\n    InputSandbox = \n        {\n            "/bin/hostname",\n5   "SB:ProductionSandboxSE|/SandBox/g/ghughes.cta_user/e9b/b34/e9bb34d0d7945deca7066e945b75fbdc.tar.bz2"\n6   JobGroup = vo.cta.in2p3.fr;\n7   JobName = API;\n8   JobType = User;\n9   LogLevel = INFO;\n    OutputSandbox = \n        {\n            Script1_CodeOutput.log,\n            Script2_hostname.log,\n            Script3_CodeOutput.log,\n            std.err,\n            std.out\n        };\n    Priority = 1;\n    StdError = std.err;\n    StdOutput = std.out;\n    ]']]
```



- IAM and getting the x509 cert ([branch](#))
- How to proxy-init DIRAC
- Where to store the images for ESAP (maybe zenodo/[here](#)?)
- How to retrieve the data
- Singularity is installed on EGI “nodes” ?
- GUI source code?
- How did the GUI do the proxy-init?
- Note: Dave Morris [IVOA Execution Planner - design outline](#)

