



ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

WP5 - ESAP

ESFRI Science Analysis Platform

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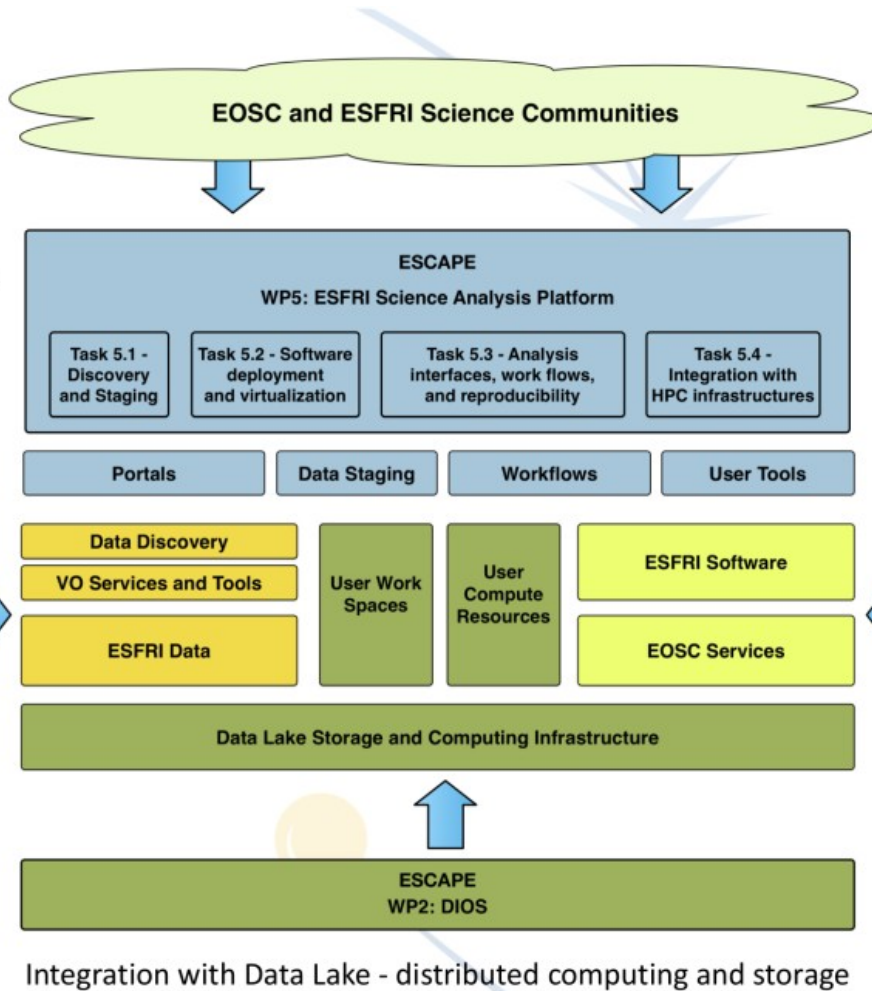
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ASTRON, The Netherlands



Connect science platform with existing astronomical data archives and VO-enabled data collections



Access to software & services in ESCAPE-EOSC catalogue



Integration with Data Lake - distributed computing and storage

T5.1 - Data aggregation and staging

- Stage data in the Data Lake (WP2)
- Data discovery, VO (WP4) - to be expanded
- Dynamically allocate user workspace across distributed infrastructure
- Tools to estimate availability & latency
- Demonstrate for a range of data collections (CTA, ESO, EST, FAIR, JIVE, LOFAR,...)



T5.2 - Software deployment and virtualisation

- Integrate software and service repository (WP3), allow access to software components developed by ESFRIs
- Provide access to software repository metadata
- Support containerisation of additional tools
- Demonstrate with variety of examples (ESO, FAIR, JIVE, LOFAR)



ASTRON



T5.3 – Analysis interface, work flows and reproducibility

- Interactive analysis interface which Integrates data access & staging (T5.1)
- Provides access to EOSC software repository (T5.2)
- Simplify porting workflows to science platform environment
 - support common deployment language (e.g. CWL)
 - deploy across EOSC infrastructure
 - promote preservation & sharing of workflows
- Start with small number of representative workflows
- Evaluate performance, monitor compliance w/ FAIR principles



T5.4 - Integration with HPC and HTC infrastructures

- Deploy user-initiated workflows on HPC and HTC infrastructure
- but... maintain interactivity and responsiveness
- Obviously close links with WP2 – integrate Science Platform with Data Lake
- Expand number of ESFRIs supported

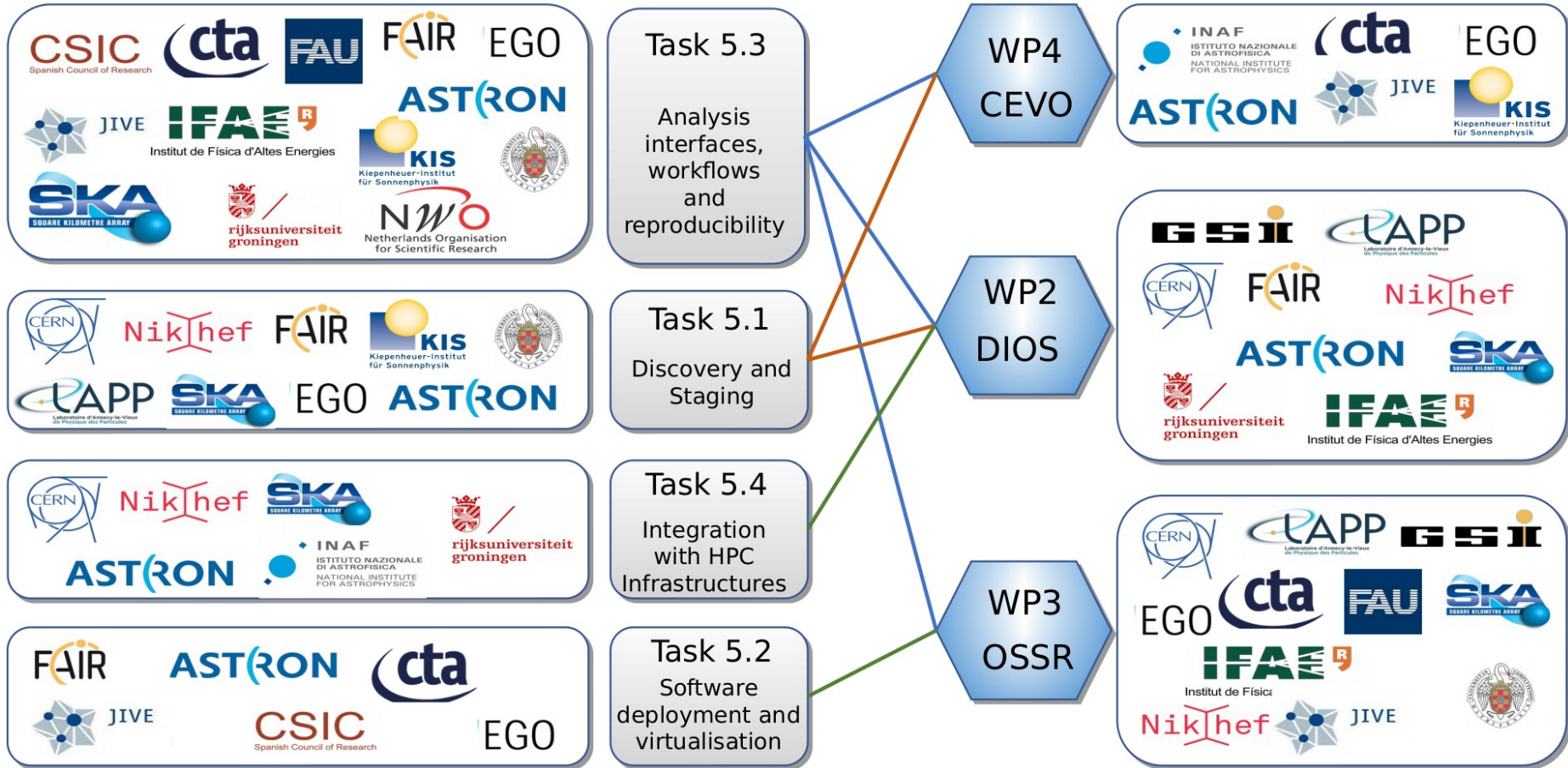


Links with other ESCAPE WPs

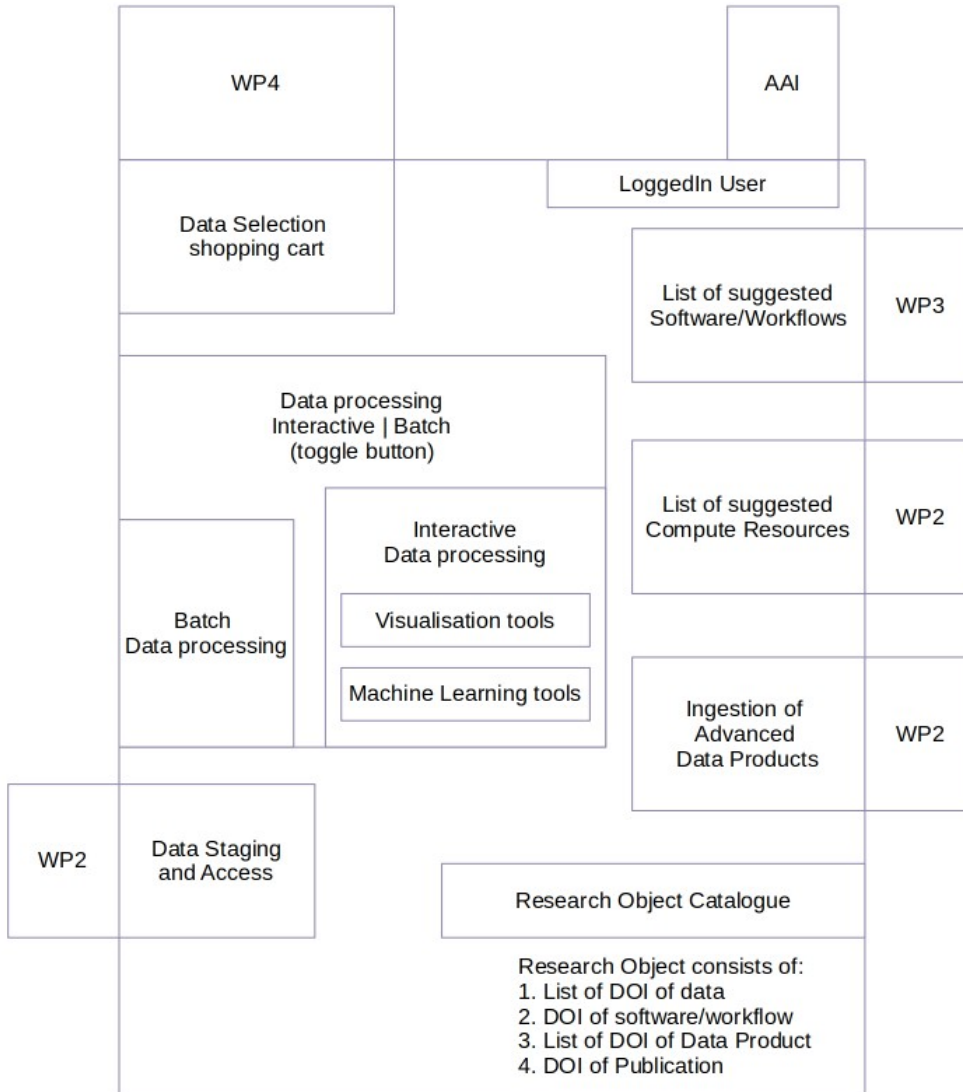
- WP1 - General EOSC policy for services & infrastructure access
- WP2 - Integration with Data Lake - distributed computing and storage, AAI
- WP3 - Access to software & services in ESCAPE-EOSC catalogue
- WP4 - connect science platform with existing astronomical data archives and VO-enabled data collections



Links with other ESCAPE WPs



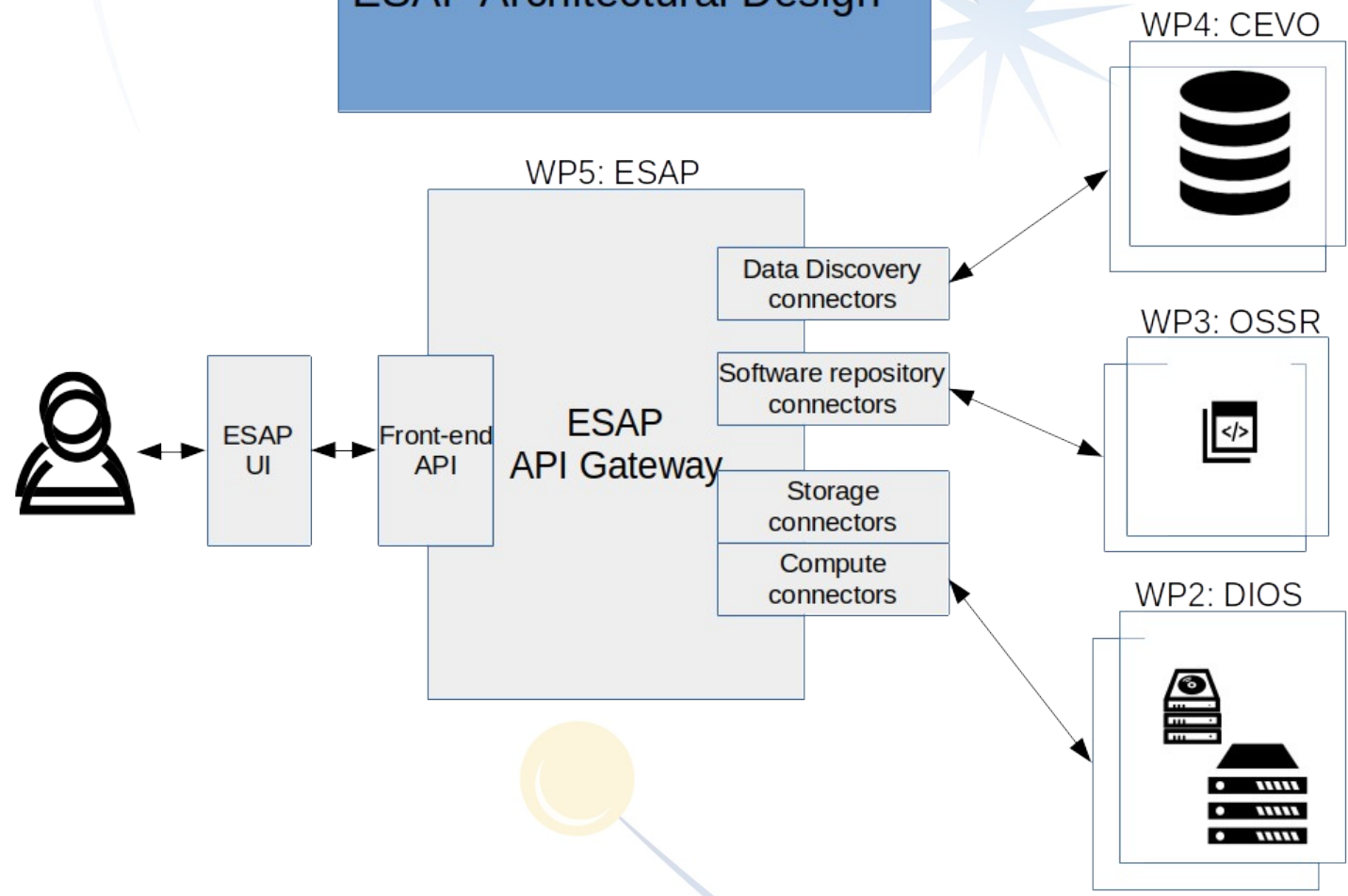
ESAP UI Service Components



- AAI
- Data selection shopping cart
- Data Staging and Access
- List of suggested Software/Workflows
- List of suggested Compute Resources
- Batch data processing
- Interactive Data analysis
- Data analysis with visualisation tools
- Data analysis with machine learning tools
- Research object catalogue
- Ingestion of advanced data products

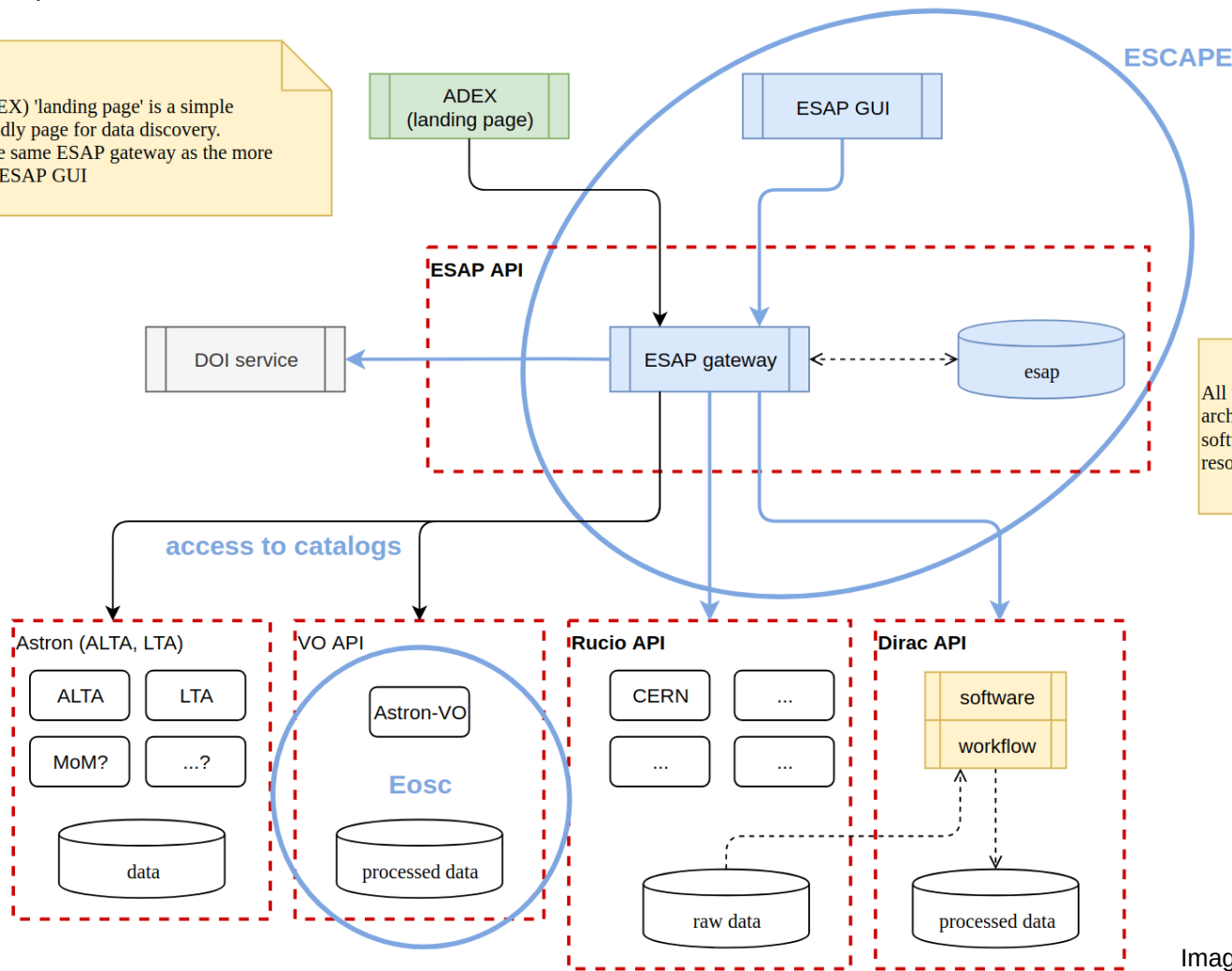


ESAP Architectural Design



ESAP Architectural Design

The (ADEX) 'landing page' is a simple user friendly page for data discovery. It uses the same ESAP gateway as the more complex ESAP GUI



All the information about archives, catalogs, datasets, available software and workflows, processing resources is described in the esap database.

Image by Nico Vermaas (ASTRON)



Authentication: Login with ESCAPE credentials

- Integrated with ESCAPE IAM
- Allow ESAP users to create an account with their ESCAPE credentials
 - User register at ESCAPE IAM
 - Use their institution credential through eduGAIN
 - Or their social account, e.g. Google
 - User register at ESAP
 - Use their ESCAPE credentials through ESCAPE IAM



Welcome to **escape**

Sign in with your escape credentials

 meyer



Sign in

[Forgot your password?](#)

Or sign in with

 Google

 eduGAIN

Not a member?

Register a new account

[Privacy policy](#)



ESAP Focus Months (Jun – Sep 2020)

Goal: Engage all WP5 developers to integrate the ESAP services they are working on to make the ESAP prototype ready in September.

Working group	Participating Institutesx
Rucio	CERN, ASTRON , RuG, SKAO, EGO, OU
Data discovery UI and IVOA	ASTRON , UEDIN, CSIC, Paris Observatory, UCM, CTA, OU
Interactive Data Analysis	UEDIN , SKAO, CSIC, INAF, RuG, Paris Observatory, FAIR, CTA, ASTRON , OU
Batch processing	INAF , EGO, RuG, CTA, ASTRON
DIRAC	CTA , UCM, FAU, ASTRON



Data discovery UI and IVOA working group

Coordinator: Zheng Meyer-Zhao (ASTRON)

- Google doc:
<https://docs.google.com/document/d/1QgFNUGWK8Uczzxd8pRi-ZPMRItaDi3JxV8kuolQ4IzM/edit?usp=sharing>
- ESAP & VO Integration
 - Service description
 - Use case description
 - UI design and implementation
 - Backend implementation
- Working group updates:
 - Every Monday 14:30 – 15:00 (Amsterdam time)
 - ESCAPE WP5 Zoom room



Interactive data analysis working group

Coordinator: Stelios Voutsinas (UEDIN)

- Google doc:
https://docs.google.com/document/d/1f6UAQ8ZtS37uxiikdYyTka7XWf0OOB8uukvi_qef4_E/edit?usp=sharing
- ESAP & Analysis Interface Integration
 - JupyterHub testbed
 - User Profile:
 - List of compute resources
 - List of software repositories
 - Data shopping cart
- Working group updates:
 - Every Monday 13:30 – 14:30 (Amsterdam time)
 - ESCAPE WP5 Zoom room



Rucio working group

Coordinator: Yan Grange (ASTRON)

- First kick-off meeting today
 - Redirect user to Rucio Web UI from ESAP
 - Intergrate ESAP with Rucio REST API
 - Start Rucio client in Analysis Interface
- Working closely with WP2 (including AAI related topics)
- Working group updates:
 - Every 2nd and 4th Monday 16:00 – 17:00 (Amsterdam time)
 - ESCAPE WP5 Zoom room



Batch Processing & DIRAC

Batch Processing

- Coordinator: Sara Bertocco (INAF)
- Working group plan and updates:
 - Plan meetings whenever needed

DIRAC

- Coordinator: Matthias Fuessling (CTA)
- Working group plan and updates:
 - Plan meetings whenever needed



The logo features a blue arc at the top left that curves towards a blue starburst. A yellow circle is positioned above a blue arc at the bottom right.

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Thank you !