



ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

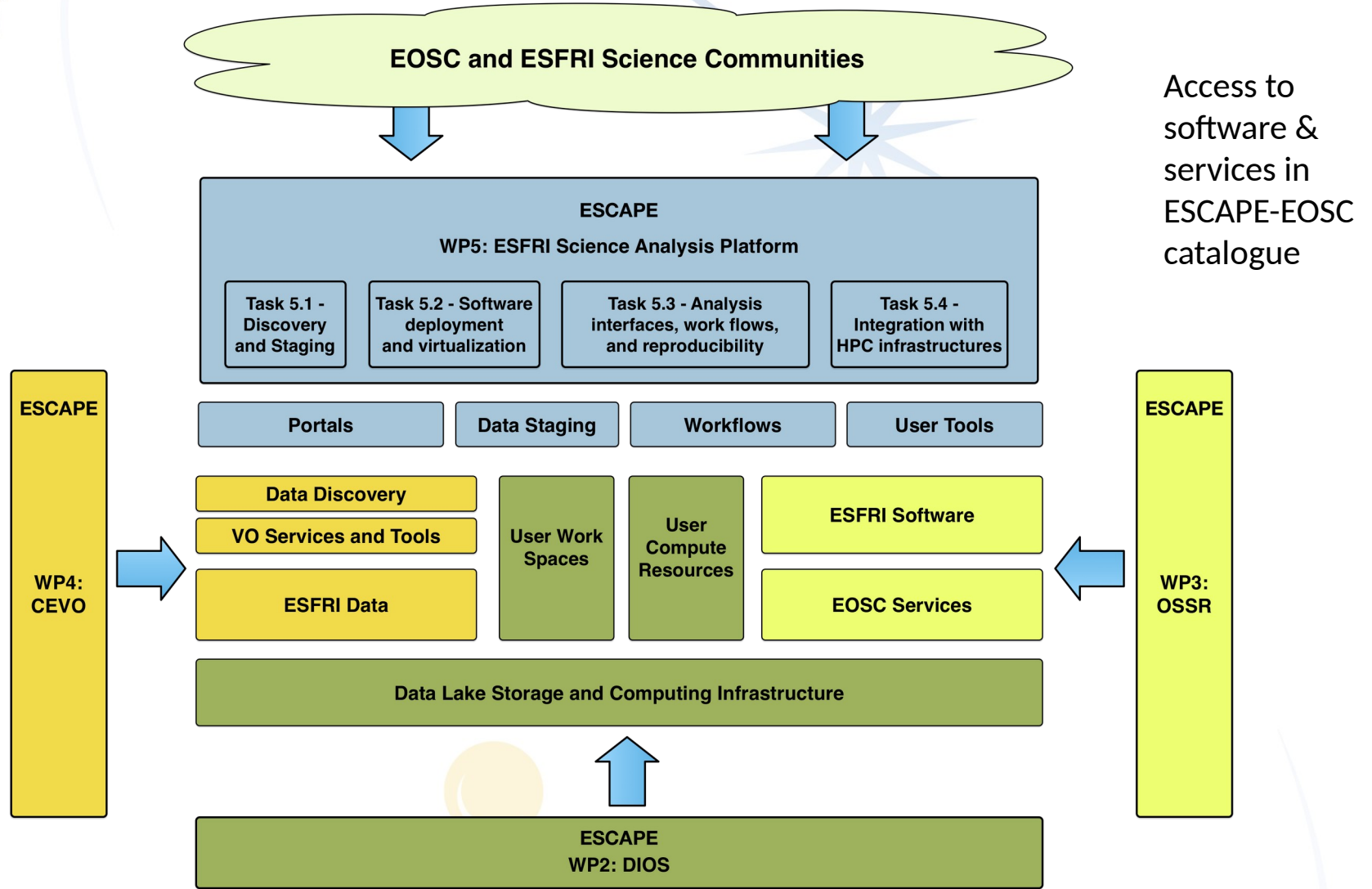
WP5 - ESAP Focus Months Updates

Zheng Meyer-Zhao

ASTRON

On behalf of all WP5 Focus Months participants

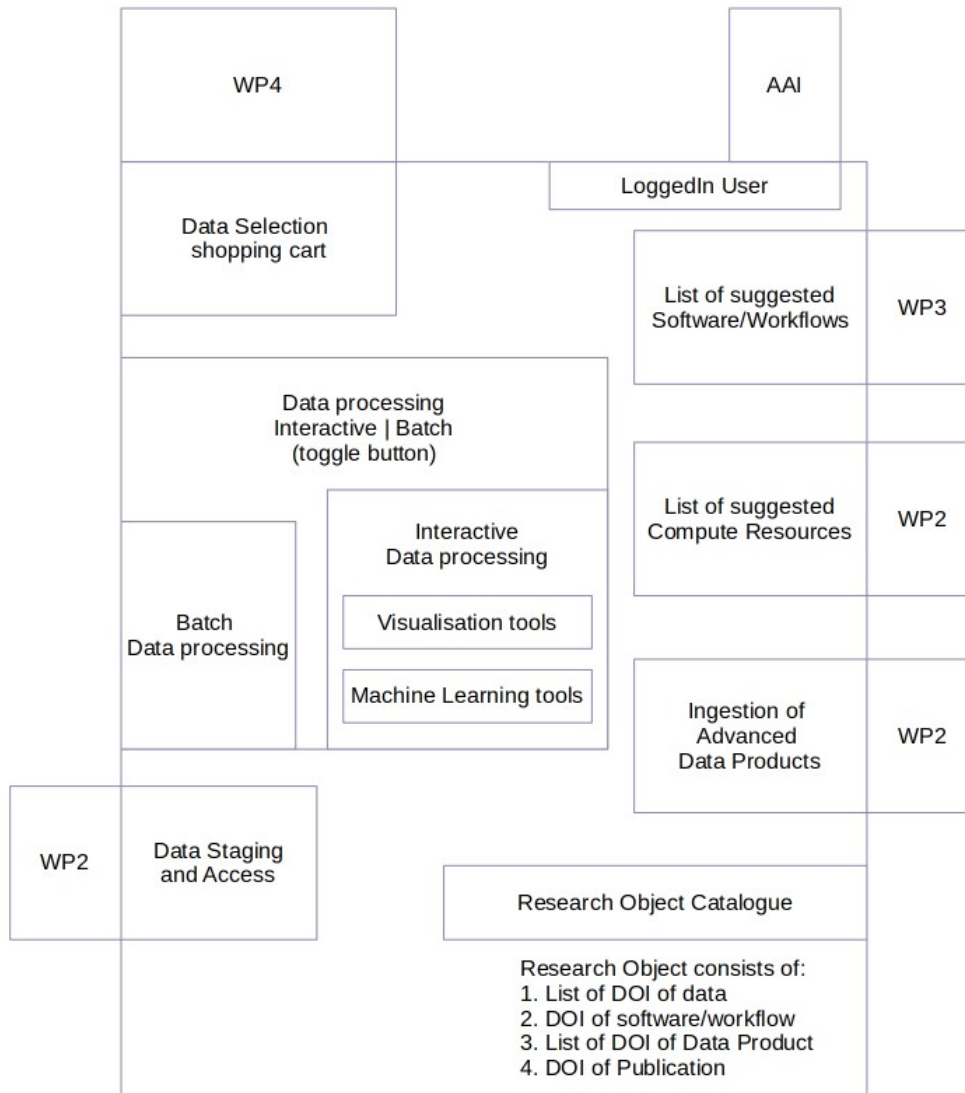




Integration with Data Lake - distributed computing and storage



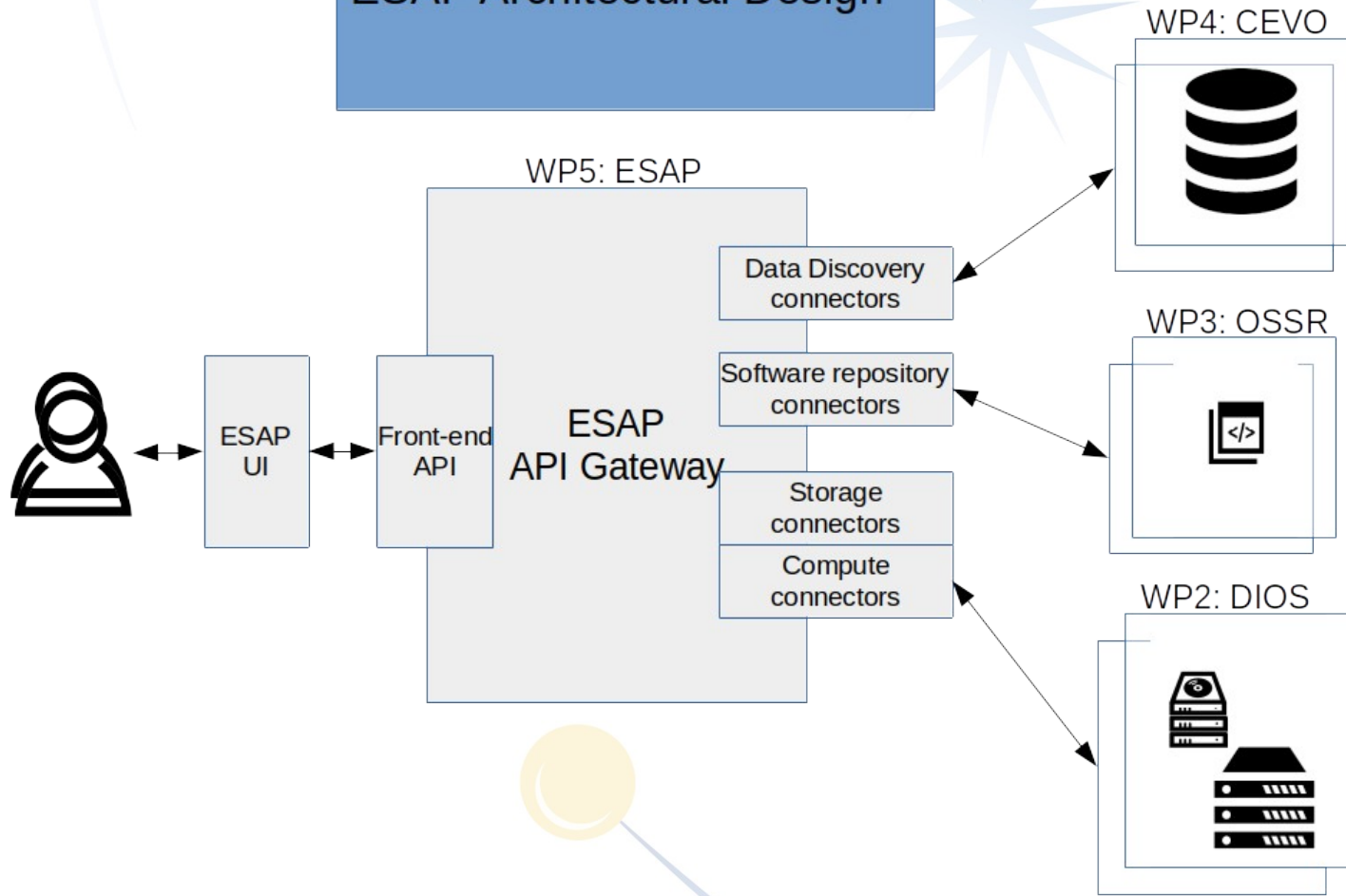
ESAP UI Service Components



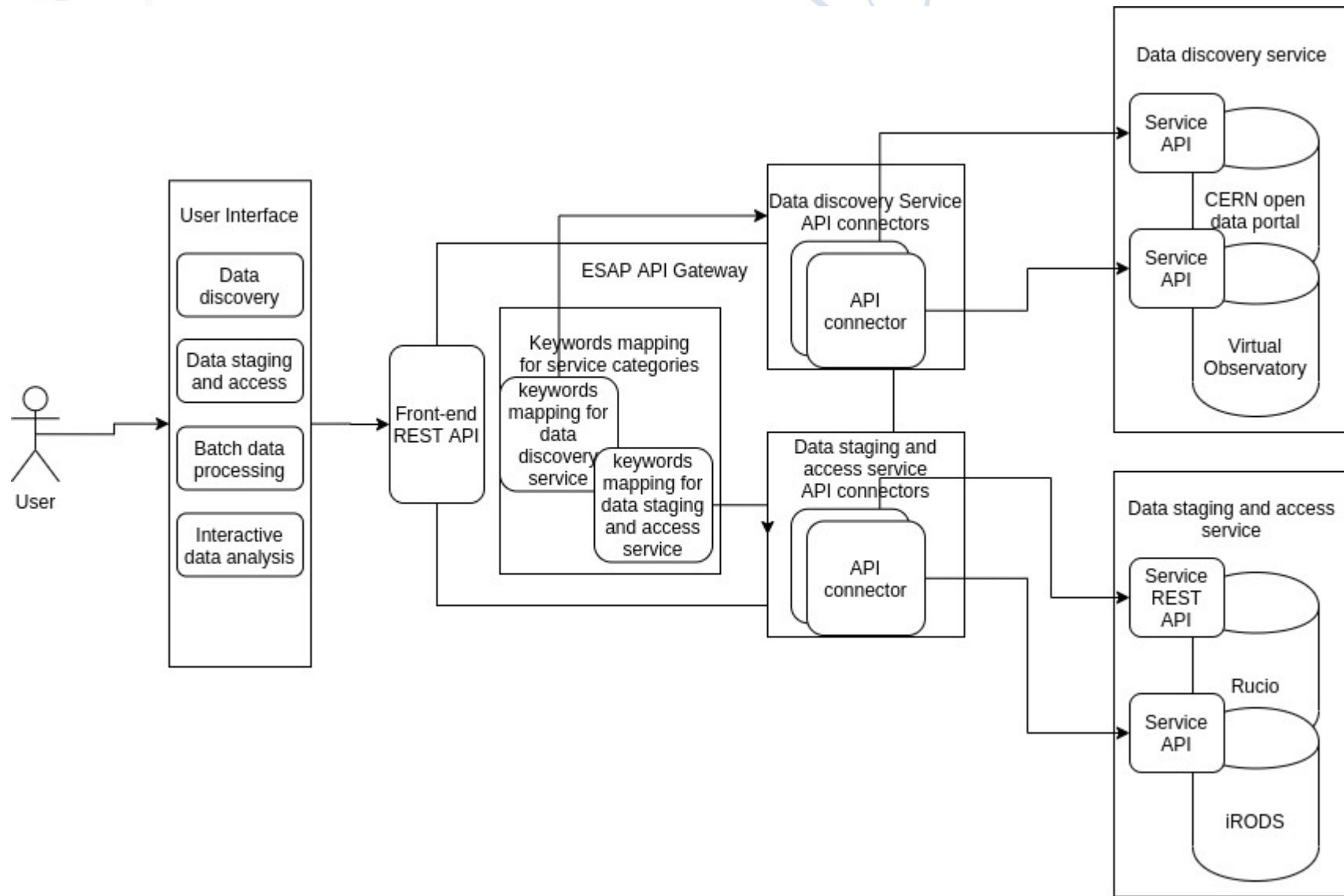
- AAI
- Data selection shopping cart
- Data Staging and Access
- List of suggested Software/Workflows
- List of suggested Compute Resources
- Batch data processing
- Interactive Data analysis
- Data analysis with visualisation tools
- Data analysis with machine learning tools
- Research object catalogue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



ESAP Architectural Design



ESAP Architectural Design



ESAP Focus Months (July – September 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
Data discovery UI and IVOA	ASTRON , UEDIN, CSIC, Paris Observatory, UCM, CTA
Interactive analysis	UEDIN , SKAO, CSIC, INAF, RuG, Paris Observatory, FAIR, CTA, ASTRON
Batch processing	INAF , EGO, RuG, CTA, ASTRON
DIRAC	CTA , UCM, FAU, ASTRON



Data discovery UI and IVOA

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 14:00 – 14:30 CEST
 - ESCAPE WP5 Virtual Office (sococo)



Interactive analysis

Coordinator: Stelios Voutsinas (UEDIN)

- Google doc:
https://docs.google.com/document/d/1f6UAQ8ZtS37uxiikdYyTka7XWf0OOB8uukvi_qef4_E/edit?usp=sharing
- ESAP & Analysis Interface Integration
 - Rosetta (developed by INAF)
 - User Profile:
 - List of compute resources
 - List of software repositories
 - Data shopping cart
- Working group updates:
 - Every Monday 13:30 – 14:00 CEST
 - ESCAPE WP5 Virtual Office (sococo)



Rucio

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 (?) Monday 15:00 – 15:30 CEST
 - ESCAPE WP5 Virtual Office (sococo)



Batch Processing & DIRAC

Batch Processing

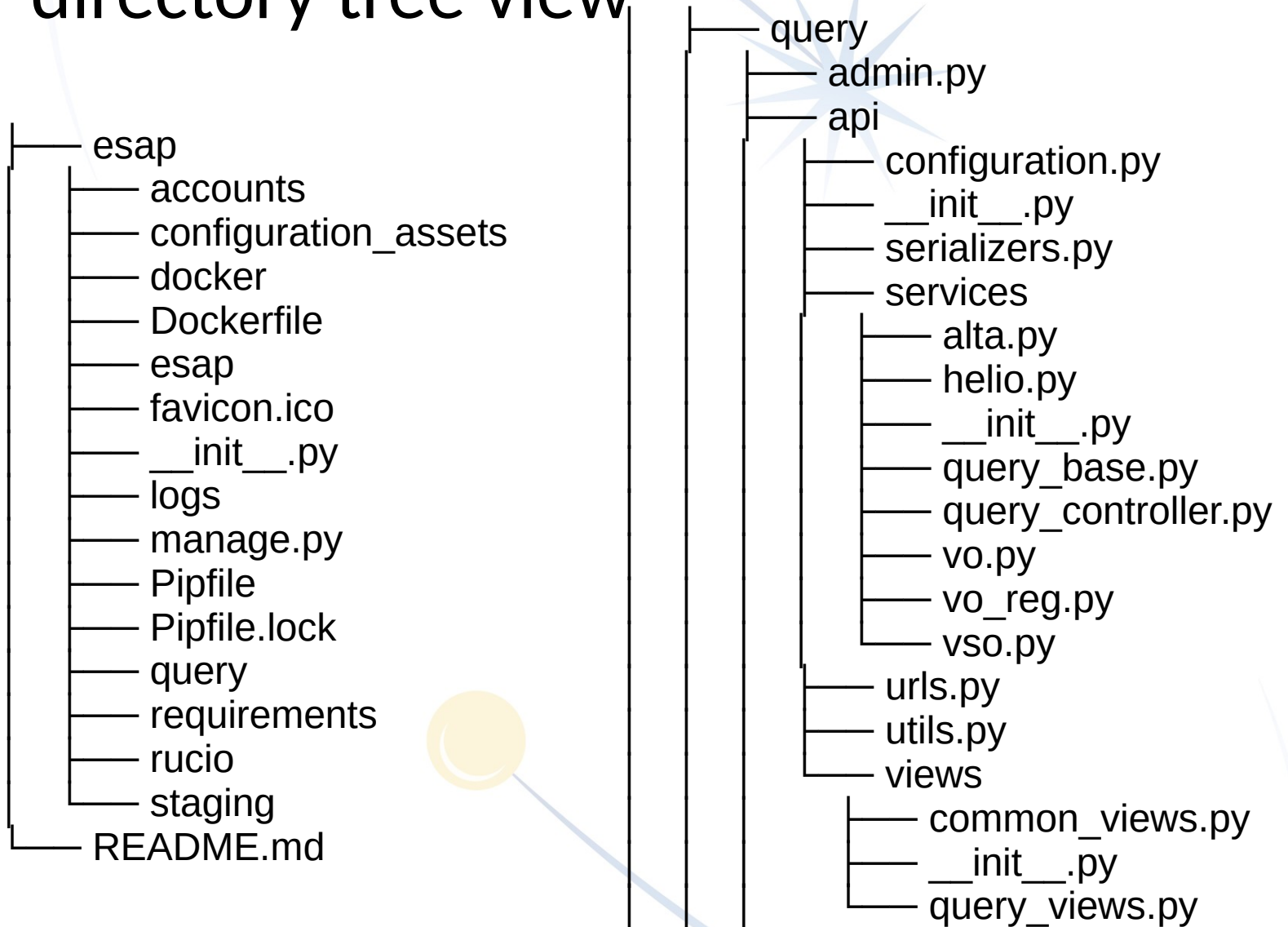
- Coordinator: Sara Bertocco (INAF)
- Working group plan and updates:
 - Yet to be decided

DIRAC

- Coordinator: Matthias Fuessling (CTA)
- Working group plan and updates:
 - Yet to be decided



ESAP API Gateway source code directory tree view



ESAP UI & Configuration



ESAP

[IVOA](#)

[ADEX](#)

[Solar](#)

[Rucio](#)

[Interactive Analysis](#)

[Login](#)

ESAP IVOA Query

Service

Keyword

TAP: Tables



Submit



ESAP UI & Configuration

```
query_schema = {  
  "title": "ESAP IVOA Query",  
  "type": "object",  
  "properties": {  
    "service": {  
      "type": "string",  
      "title": "Service",  
      "default": "tap",  
      "enum": ["tap", "scs", "ssa", "sia"],  
      "enumNames": ["TAP: Tables",  
                    "SCS: Cone Search",  
                    "SSA: Spectra",  
                    "SIA: Images"]  
    },  
    "keyword": {  
      "type": "string",  
      "title": "Keyword",  
      "default": ""  
    },  
  },  
}
```



ASTRON Data Collection Query

Catalog

Target

RA (degrees)

dec (degrees)

search radius (degrees)

Processing Level

Collection

Submit



ESAP UI & Configuration

```
query_schema = {  
  "name": "adex",  
  "title": "ASTRON Data Collection Query",  
  "type": "object",  
  "properties": {  
    "catalog": {  
      "type": "string",  
      "title": "Catalog",  
      "default": "apertif",  
      "enum": ["all", "apertif", "astron_vo"],  
      "enumNames": ["All", "Apertif", "ASTRON_VO"]  
    },  
    "target": {  
      "type": "string",  
      "title": "Target"  
    },  
    "ra": {  
      "type": "number",  
      "title": "RA (degrees)",  
    },  
    "dec": {  
      "type": "number",  
      "title": "dec (degrees)",  
    },  
    ...  
  }  
}
```

```
...  
"fov": {  
  "type": "number",  
  "title": "search radius (degrees)",  
},  
"level": {  
  "type": "string",  
  "title": "Processing Level",  
  "default": "all",  
  "enum": ["all", "raw", "processed"],  
  "enumNames": ["All", "Raw", "Processed"]  
},  
"collection": {  
  "type": "string",  
  "title": "Collection",  
},  
}
```



Demo!



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 !