



IVOA software metadata

WP4 Tech Forum, April 2021

D.Morris University of Edinburgh



OSSR software metadata

- Registering software
- Deploying services
- Execution planning



Registering IVOA software

Questions for WP4 and the IVOA

- Software contributed by ESCAPE members
 - CDS – Aladin, Vollt etc
 - GAVO – DaCHS

We need to agree the details of how we register them

Encourage the developers to register in OSSR

Encourage the developers to register in Zenodo

Do we ask them to tag with VO or IVOA ?



Registering IVOA software

Questions for WP4 and the IVOA

- Software contributed from outside ESCAPE
 - AstroPy
 - TopCat
 -

Do we (WP4) need to create a list of key software ?

Encourage the developers to register in Zenodo

Do we ask them to tag with VO or IVOA ?



Is this something that WP 4 should raise
in the IVOA applications working group ?



Registering IVOA software

Questions for WP3

- Software contributed from outside ESCAPE

Can WP4 create OSSR entries for other people's software ?

If so, how ?

How do we include key software without opening it up to all the world ?

Can WP4 act as a sponsor for selected 3rd party software ?

Do WP4 want to take on that role ?



Registering IVOA software

Joint WP3/WP4 focus group

Open to anyone interested in participating

Contact myself or Jutta Schnabel to join :

- Dave Morris <dmr@roe.ac.uk>
- Jutta Schnabel <jutta.schnabel@fau.de>



Deploying IVOA services

Deploying IVOA services in the cloud

Building on the work done by VESPA-Cloud

<https://indico.in2p3.fr/event/23481/#44-vespa-cloud>

- Configuration in GitLab
- DaCHS service deployed on EGI
- Data storage on B2SAFE



Deploying IVOA services

Deploying IVOA services in the cloud

Building on the work done by VESPA-Cloud

Taking it to the next level:

On-demand deployment

- Select data from the DataLake
- Select deployment scripts from OSSR
- Run the deployment as a batch job

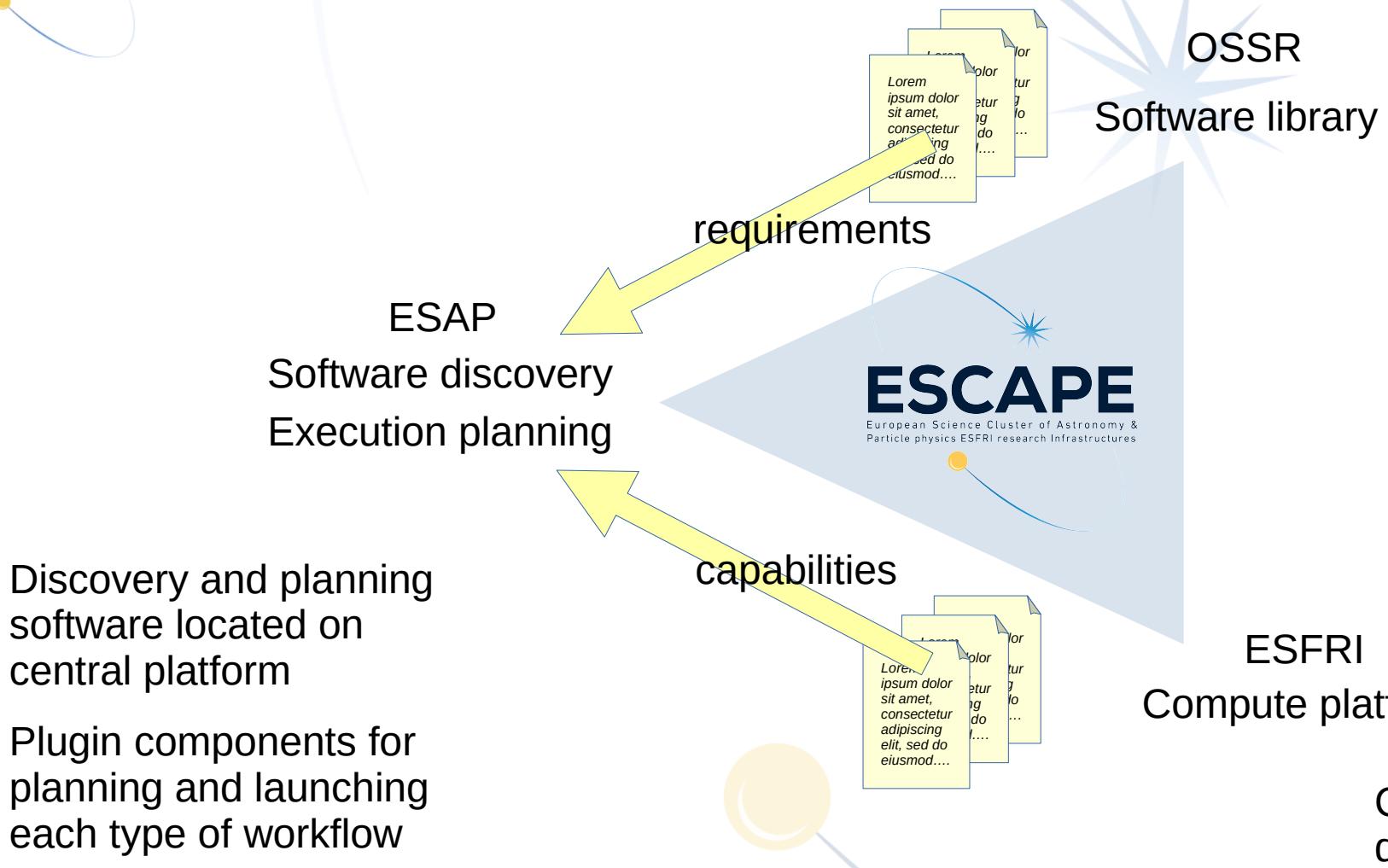
Ephemeral VO services deployed as part of a larger workflow.

Providing TAP/SIAP access to generated result sets.

Is this a valid science use case ?



Execution planning - ESCAPE



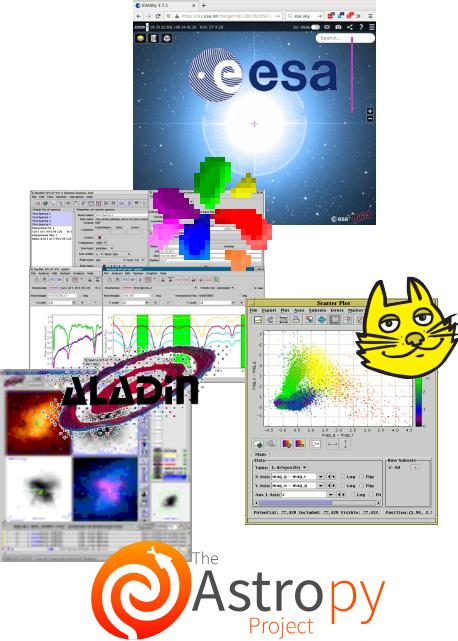
ESCAPE has a controlled set of contributed compute platforms



Common set of components deployed on all platforms

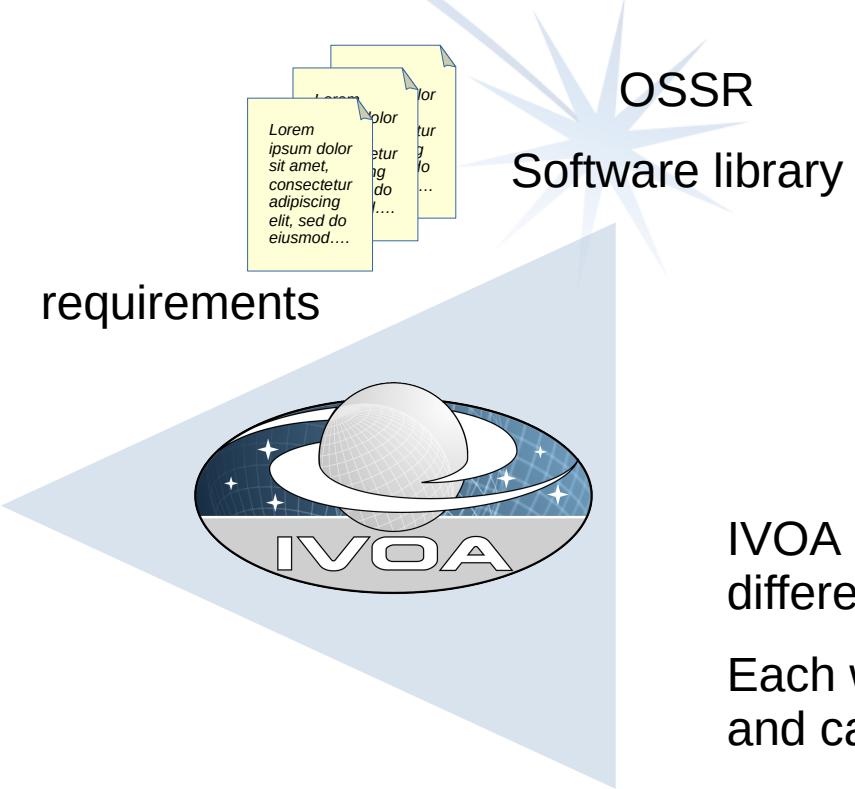


Execution planning - IVOA



IVOA has a diverse set of different client applications

IVOA does not have a central service capable of execution planning

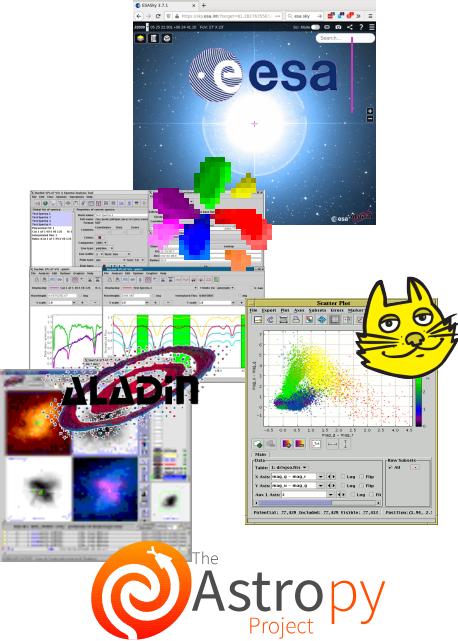


IVOA has a diverse set of different compute platforms

Each with different interfaces and capabilities

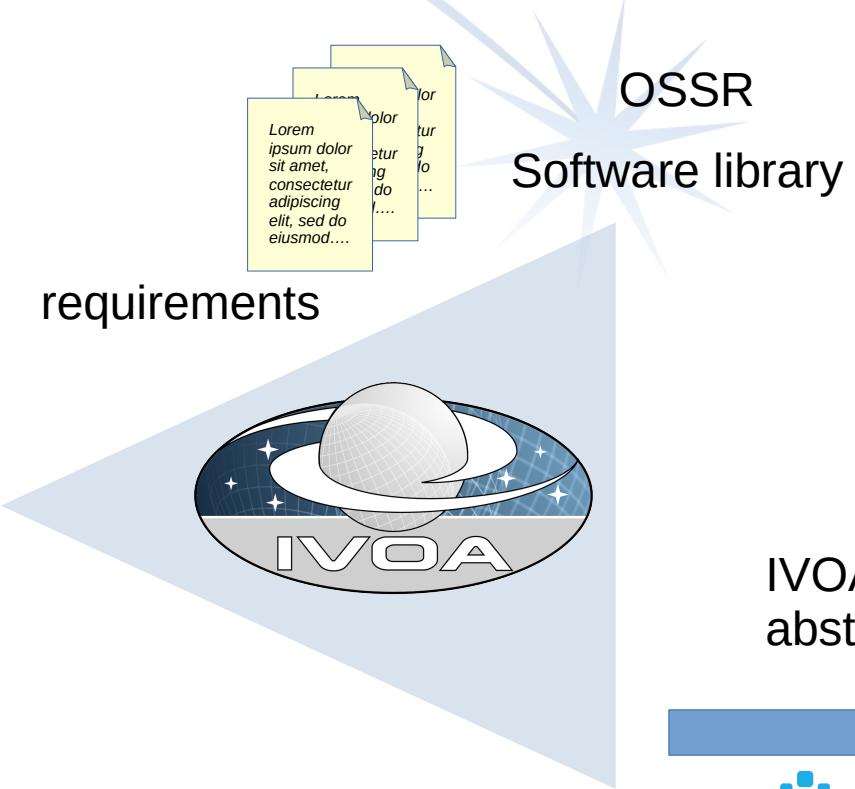


Execution planning - IVOA

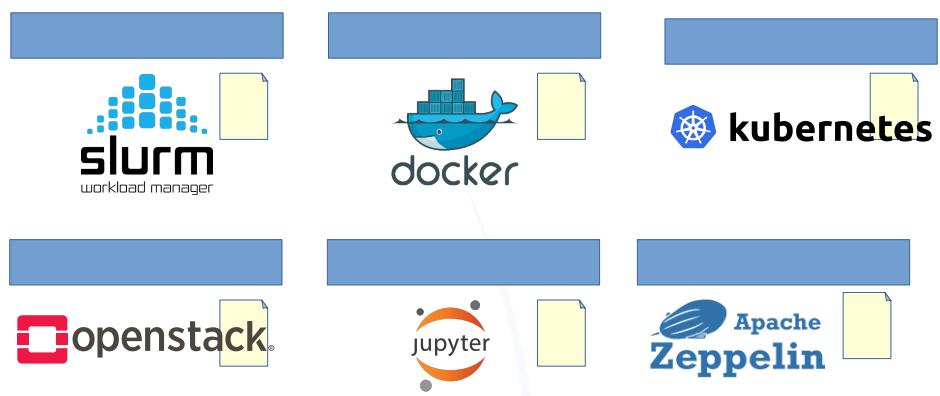


IVOA has a wide range of different client applications

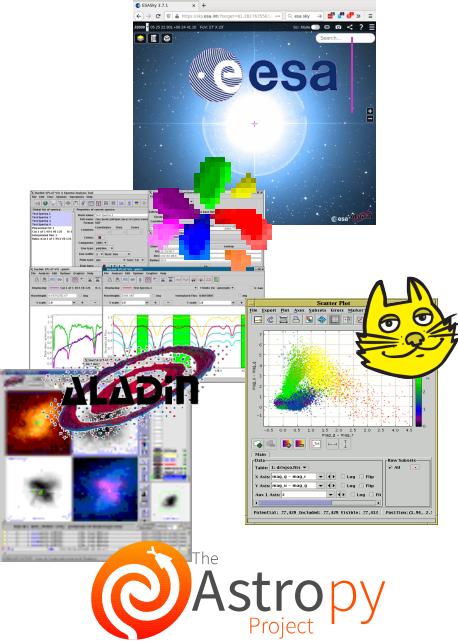
IVOA does not have a central service capable of execution planning



IVOA hides service details behind abstract interfaces

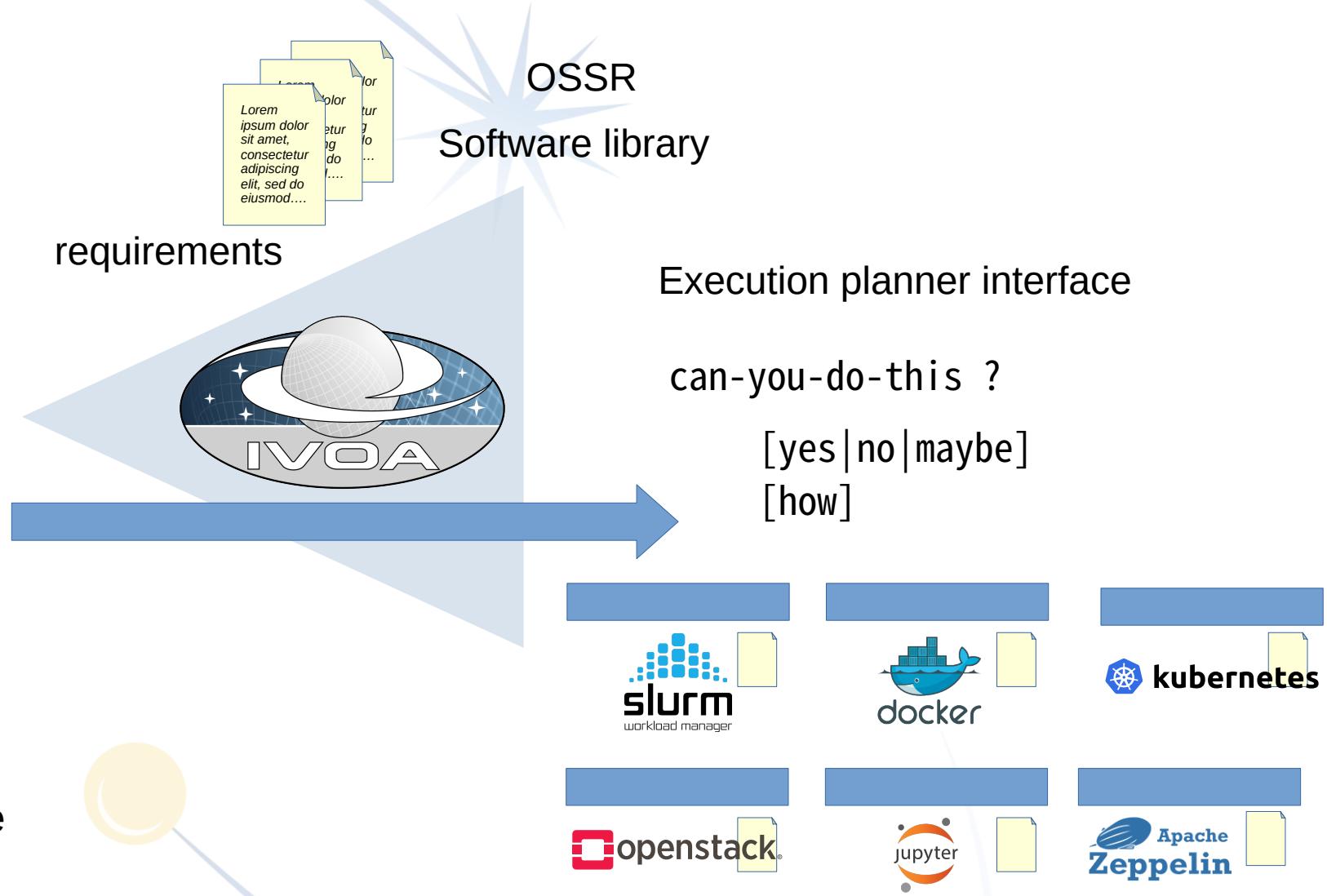


Execution planning - IVOA

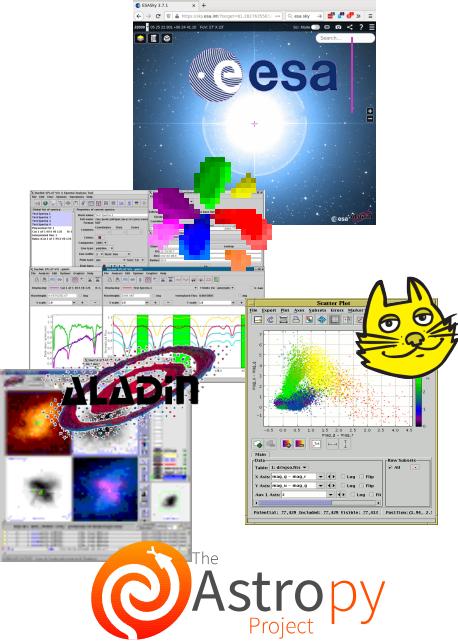


IVOA has a wide range of different client applications

IVOA does not have a central service capable of execution planning

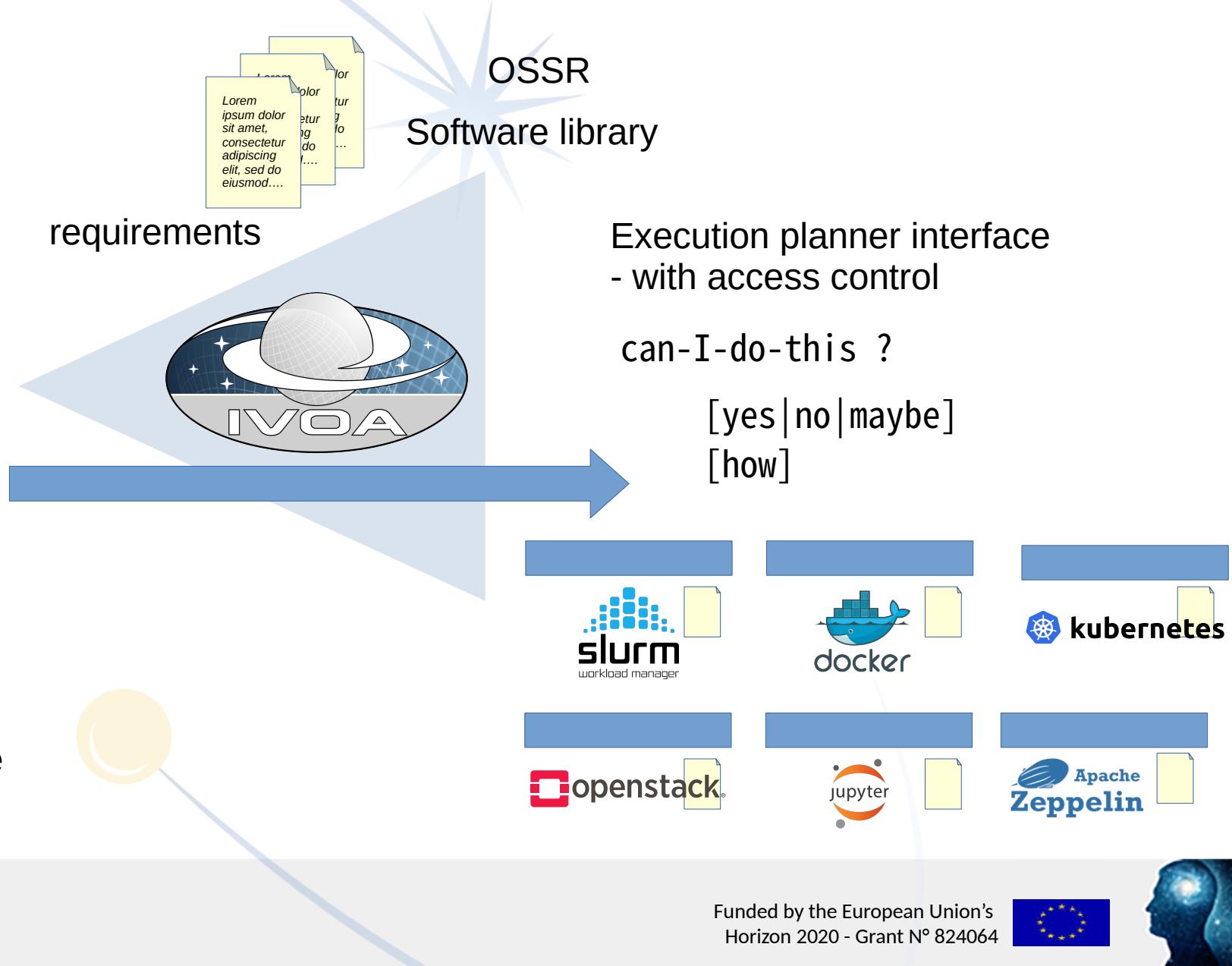


Execution planning - IVOA



IVOA has a wide range of different client applications

IVOA does not have a central service capable of execution planning



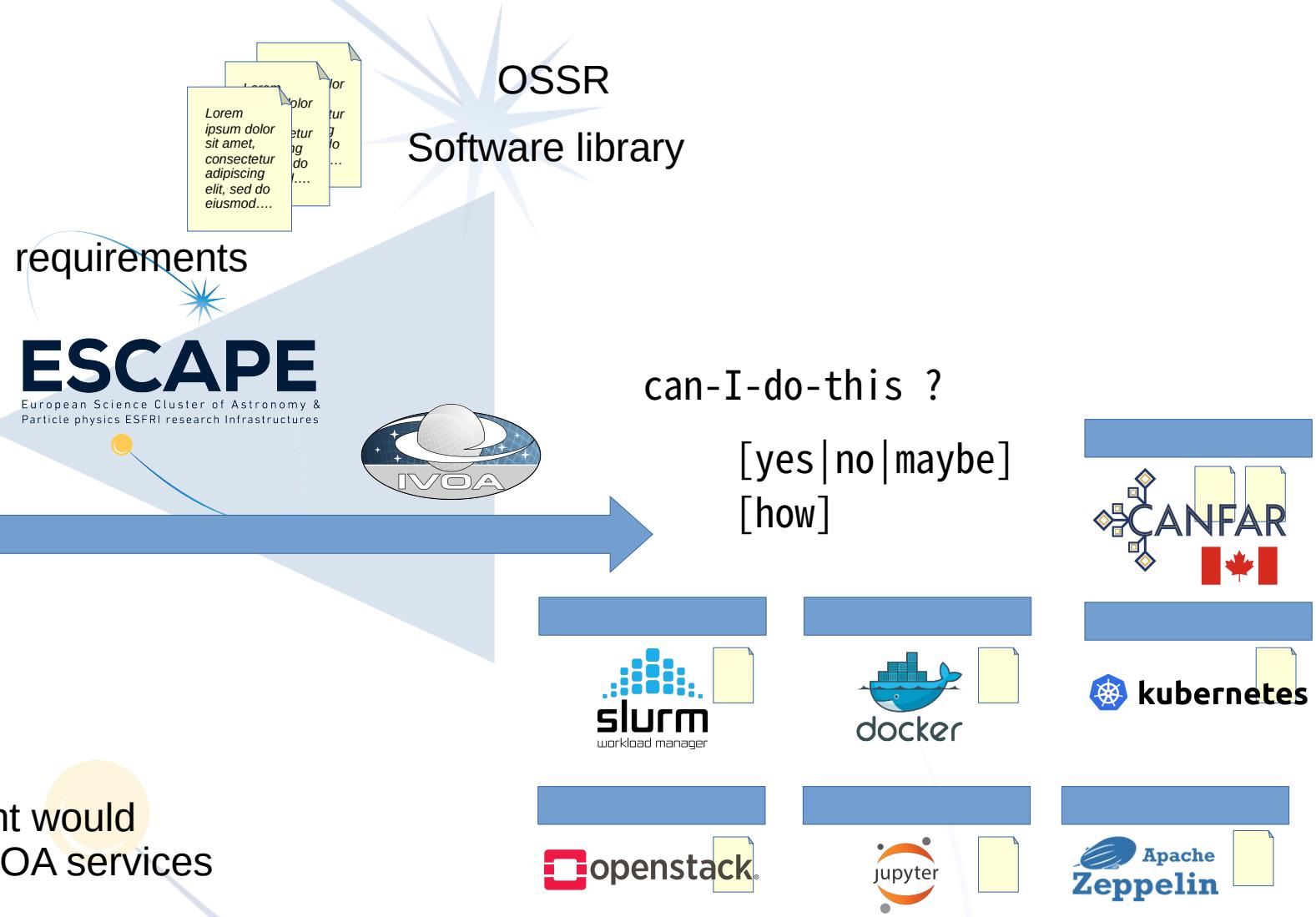
Execution planning – ESCAPE using IVOA

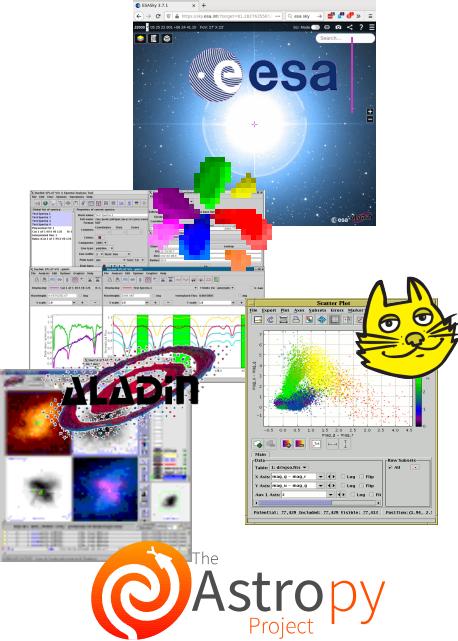
ESAP
Software discovery
Execution planning



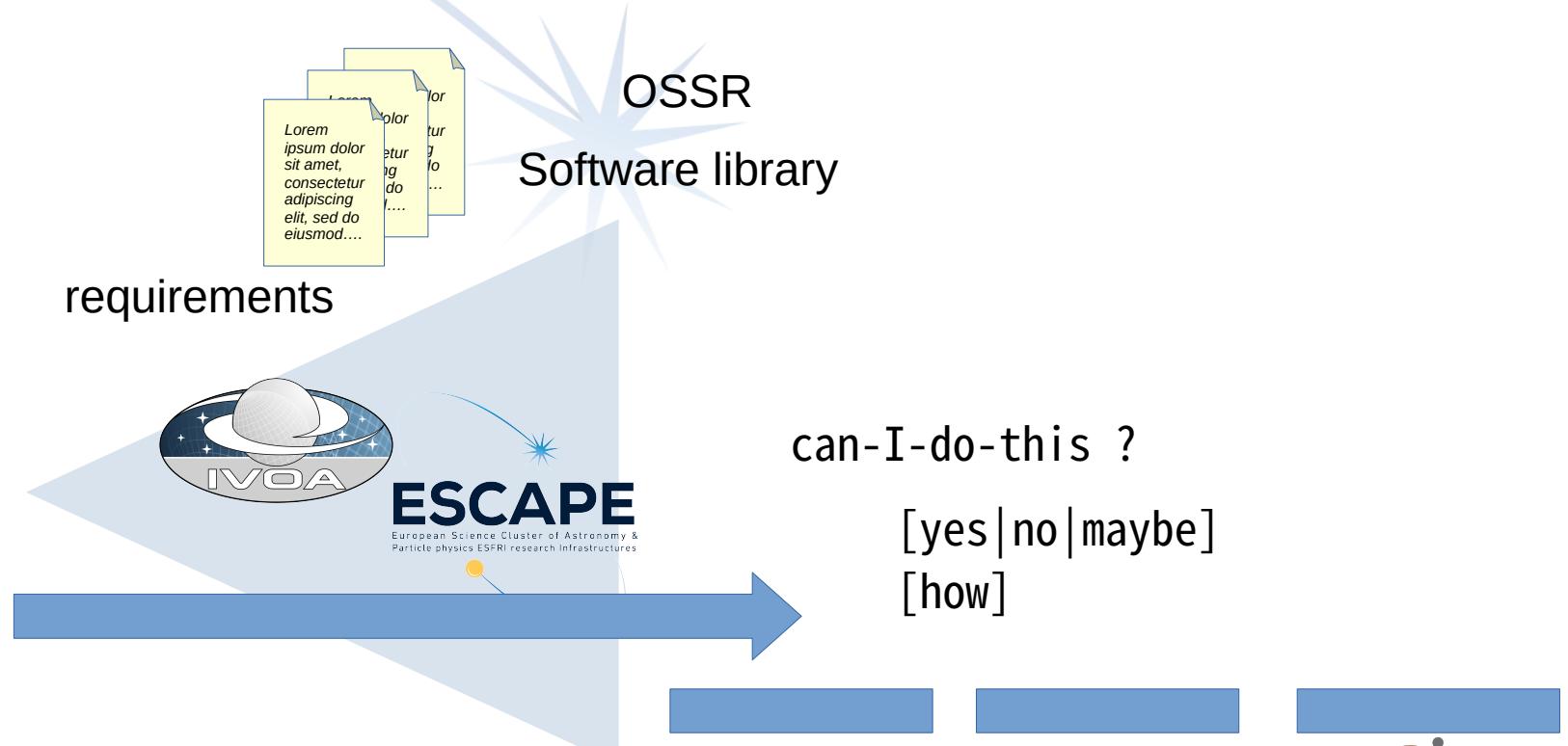
IVOA ExecPlanner client The Astropy Project

Adding an IVOA ExecPlanner client would
enable the ESAP portal to drive IVOA services





IVOA clients would be able to use
ESCAPE services directly



Adding an IVOA ExecPlan interface to
the ESCAPE services enables IVOA
clients to access them directly

Execution planning – ESCAPE + IVOA

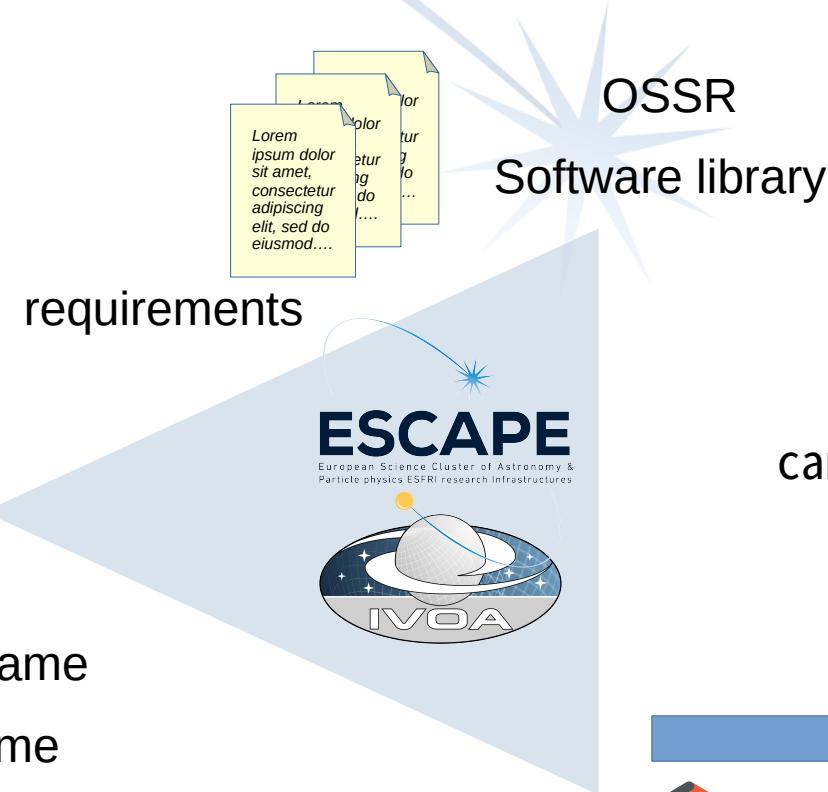
The cost :

Adding an IVOA ExecPlan interface to each of the the ESCAPE services

ESCAPE software metadata stays the same

ESCAPE service metadata stays the same

Services are able to assess the software requirements and respond with how-to instructions



can-I-do-this ?

[yes | no | maybe]
[how]



Execution planning – ESCAPE + IVOA

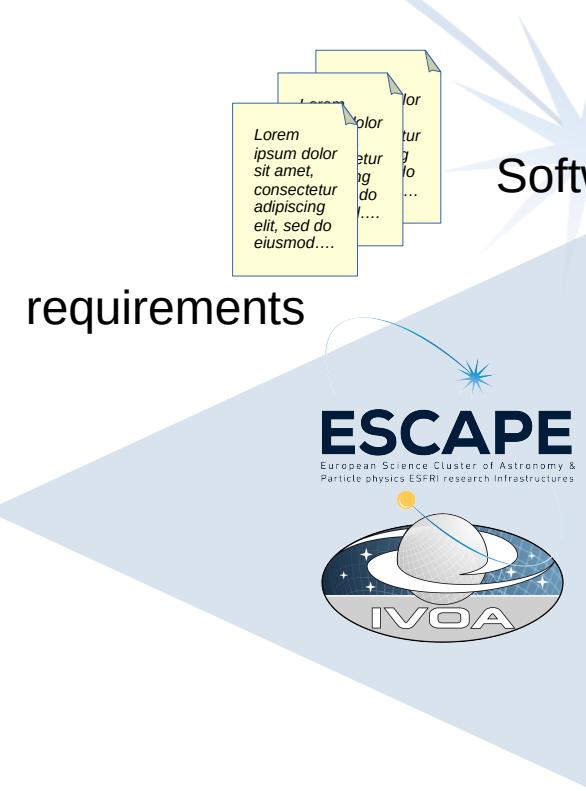
The benefit :

ESCAPE gets access to services
from the IVOA

IVOA gets access to services
inside ESCAPE

Abstract interface :

- Helps to make services interoperable
- Insulates from side effects of version changes
- Facilitates adoption of new technologies



can-I-do-this ?

[yes | no | maybe]
[how]



Execution planning – ESCAPE + IVOA

can-I-do-this ?

Propose a new IVOA standard

Based on ESCAPE use cases
and requirements

Contact me if you are interested :

- Dave Morris <dmr@roe.ac.uk>

Request :

identity : [OIDC token]

request type : [anyURI]

params :

- [name] : [value]

- [name] : [value]

Response :

[yes|no|maybe]

service type : [anyURI]

params :

- [name] : [value]

- [name] : [value]

