

The logo graphic for ESCAPE features a stylized blue starburst at the top, a yellow circle at the bottom, and two thin blue curved lines that sweep from the starburst down to the yellow circle, framing the text.

ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

IVOA execution planner API

April 2021

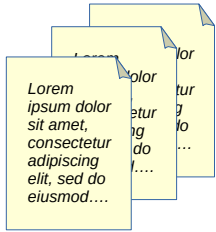
D.Morris University of Edinburgh



Execution planning - ESCAPE

OSSR

Software library

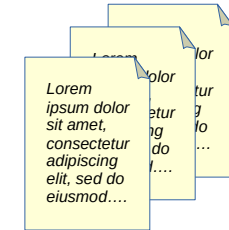


requirements.txt
environment.txt

Discovery and planning
software located on
central platform

Plugin components for
planning and launching
each type of task

List of registered platforms



capabilities.yml

Controlled set of compute platforms
contributed by ESCAPE members



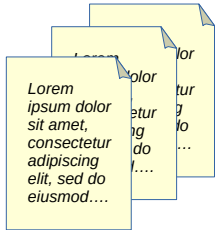
Same set of components
deployed on all platforms



Execution planning - ESCAPE

OSSR

Software library

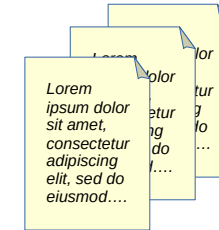


requirements.txt
environment.txt

Discovery and planning
software located on
central platform

Plugin components for
planning and launching
each type of task

List of registered platforms



capabilities.yml
capabilities.yml
capabilities.yml

Missing : metadata about task type

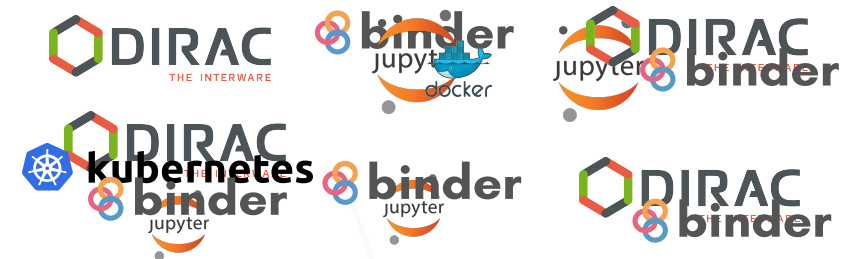
Discovery - search for Jupyter notebooks ?

Needs a standard tag for <type>

Execution – what platforms can run <this>

Depends on what <this> is

Different compute platforms
contributed by ESCAPE members



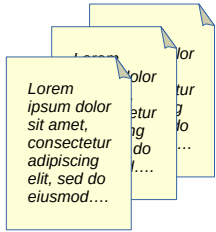
Different versions deployed on
different platforms



Execution planning - ESCAPE

OSSR

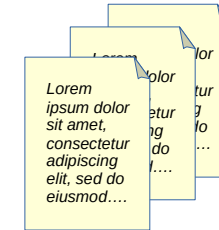
Software library



requirements.txt
environment.txt

Plugin components for
selecting, planning and
launching each task type

List of registered platforms



capabilities.yml
capabilities.yml
capabilities.yml

URI/URL to represent task types



<http://purl.escape.eu/task-type/jupyter-notebook>



<http://purl.escape.eu/task-type/binder-plan>



<http://purl.escape.eu/task-type/docker-image>



<http://purl.escape.eu/task-type/helm-chart>

URI/URL to represent platform types



<http://purl.escape.eu/platform-type/jupyter-hub>



<http://purl.escape.eu/platform-type/binder-service>



<http://purl.escape.eu/platform-type/dirac-service>



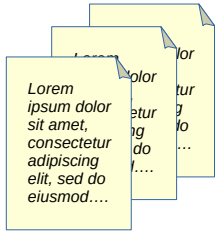
<http://purl.escape.eu/platform-type/kubernetes>



Execution planning - ESCAPE

OSSR

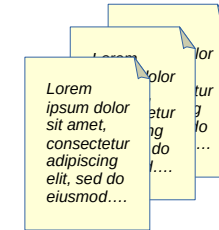
Software library



requirements.txt
environment.txt

Plugin components for
selecting, planning and
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List of registered platforms



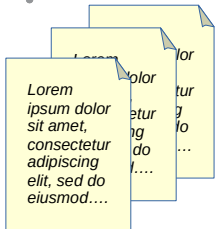
capabilities.yml
capabilities.yml
capabilities.yml

Task specific details

Task type:



<http://purl.escape.eu/task-type/jupyter-notebook>



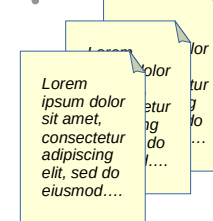
requirements.txt
environment.txt

Platform specific details

Platform type:



<http://purl.escape.eu/platform-type/jupyter-hub>



capabilities.yml



Execution planning – ESCAPE + IVOA

can-I-do-this ?

Websevice API

Based on ESCAPE use cases
and requirements

Request :

identity : [OIDC token]

request type : [anyURI]

params :

- [name] : [value]

- [name] : [value]

Response :

[yes|no|maybe]

service type : [anyURI]

params :

- [name] : [value]

- [name] : [value]

