Describing Science Platforms

April 2018

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

- What is a Science Platform ?
- Who are we describing it to ?

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

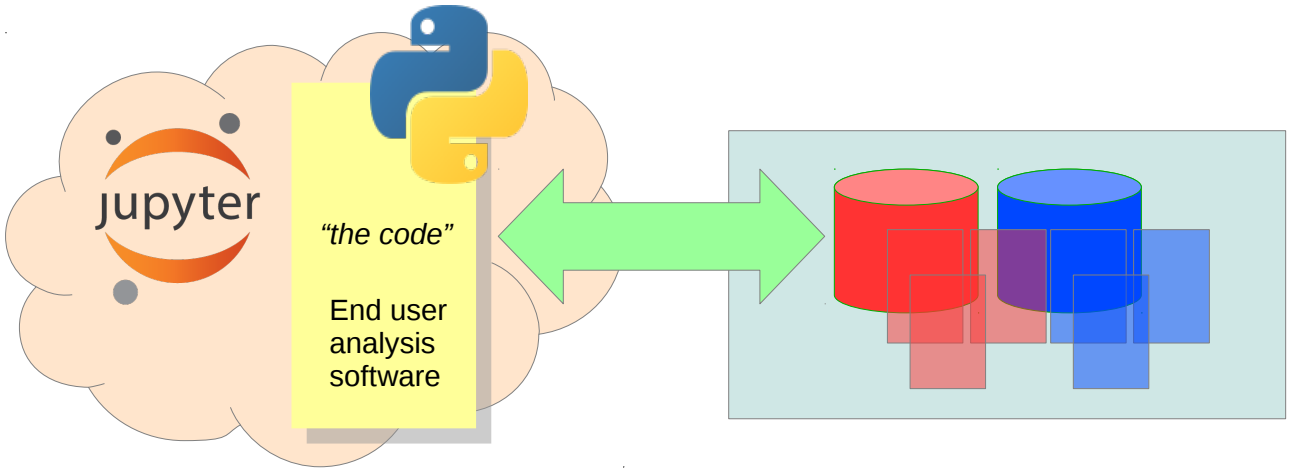
- What is a Science Platform ?

  - A service that enables users to run their code in a *data centre environment*(*).
  - A service that enables users to run their code in *close proximity*(*) to the data in a data centre.
  - A service that provides an environment with *high bandwidth*(*) access to the data in a data centre.
  - A service that provides an environment with *bulk access*(*) to the data in a data centre.

(*) Whatever that means ..

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

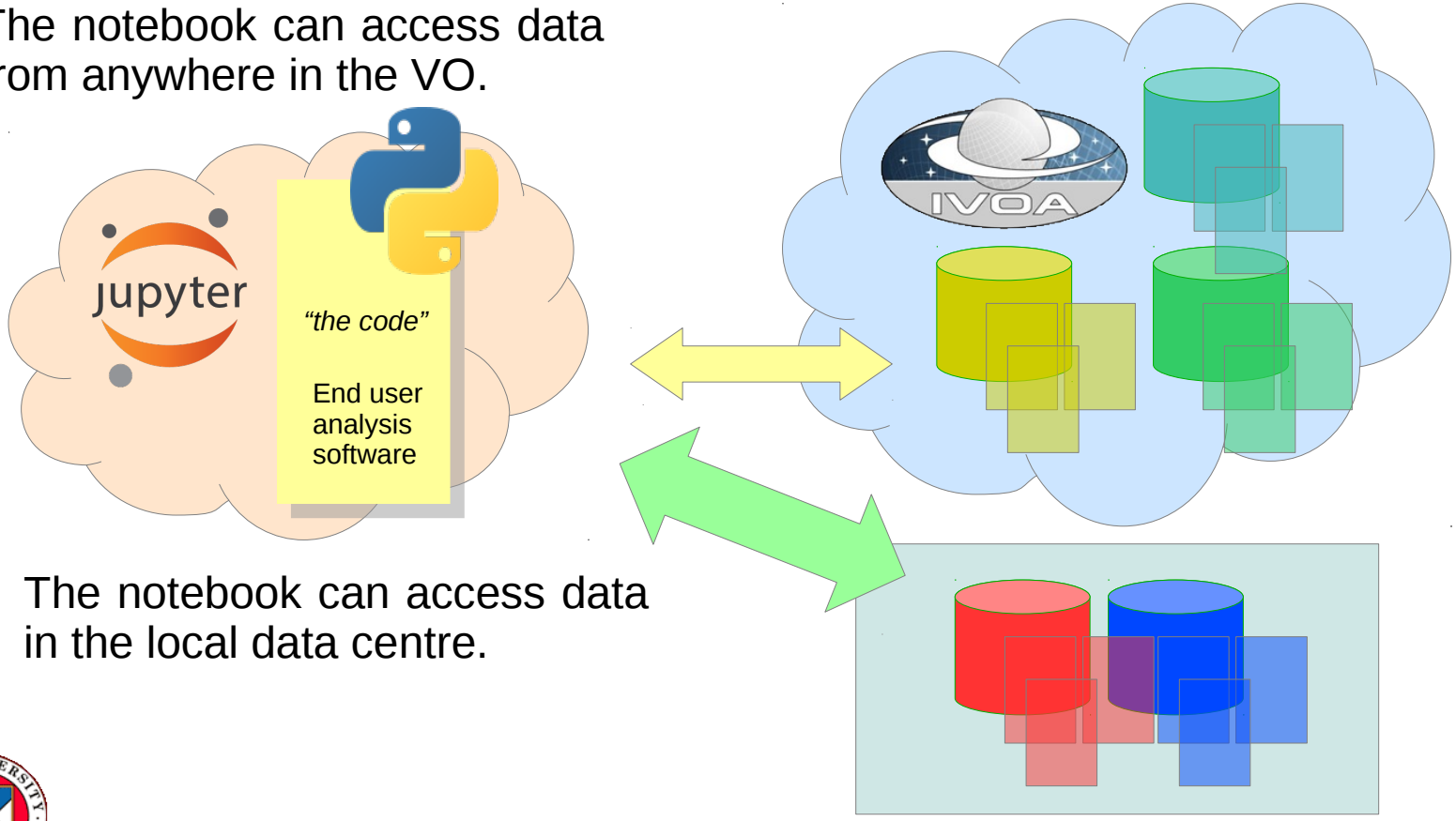
- For example JupyterHub
  - A service that enables users to run their Python code on a *server*(*) in a data centre..
  - Often in *close proximity* (located in the same data centre) as the data being analysed.
  - Local network (LAN) connection may provide *high bandwidth*(*) *bulk access*(*) to the data in a data centre.



D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

But .. if code in JupyterHub can import Astropy and PyVO

- The notebook can access data from anywhere in the VO.

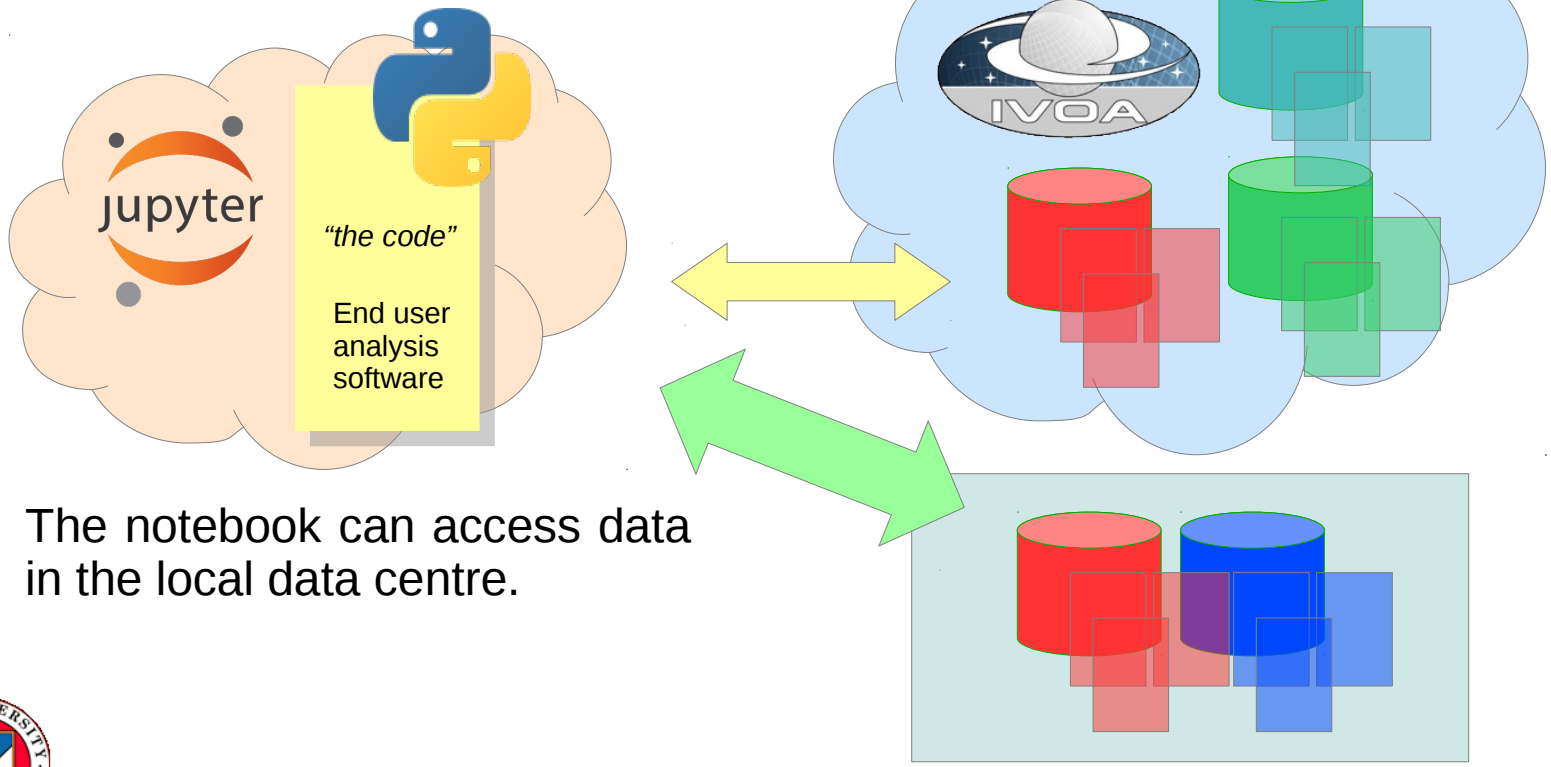


- The notebook can access data in the local data centre.

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

Can be confusing if the same data is available locally, and via the VO.

- The notebook can access data from anywhere in the VO.

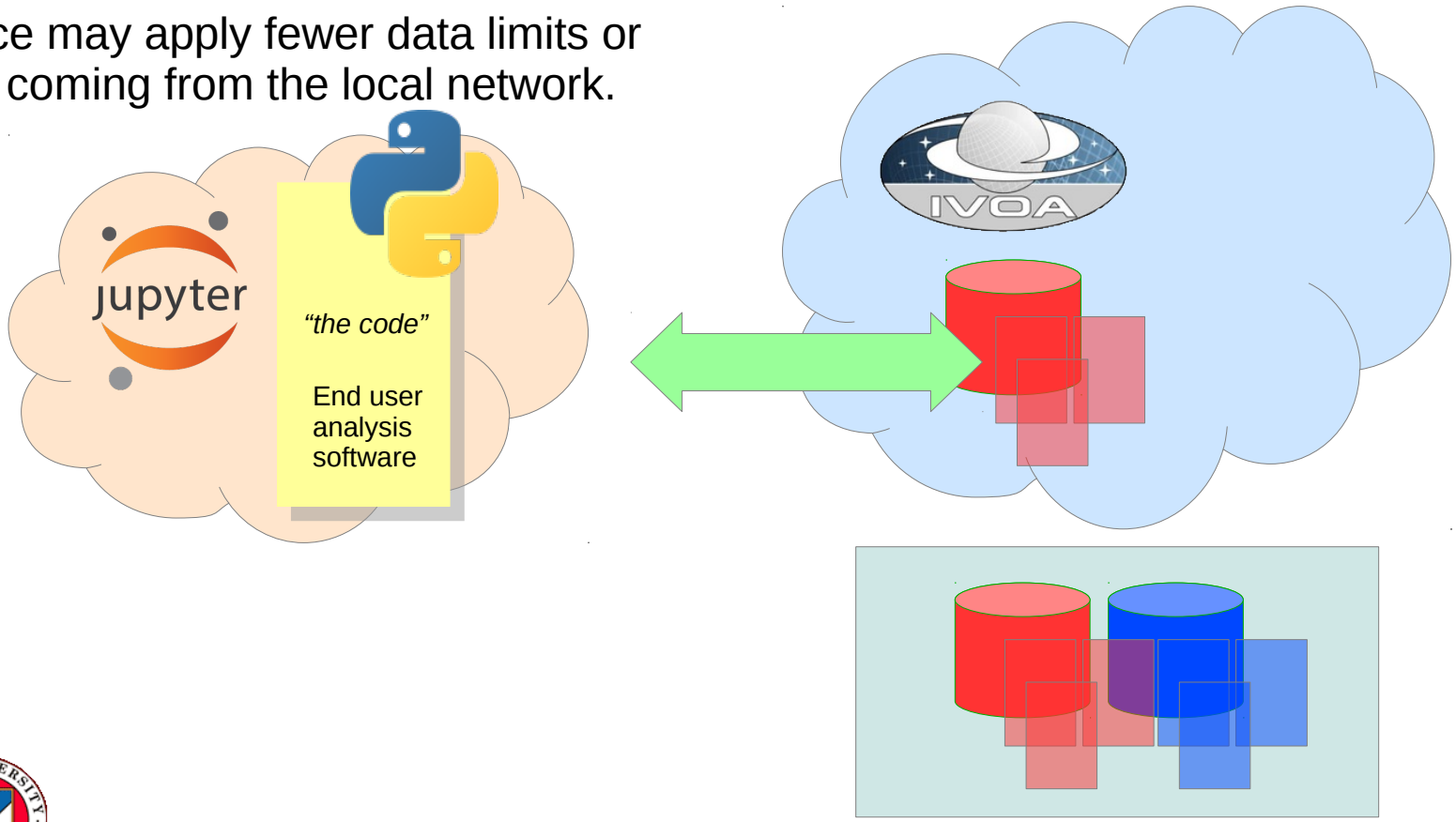


- The notebook can access data in the local data centre.

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

A *local*(*) VO interface may provide higher bandwidth access to local data purely due to the physical proximity or capabilities of the network.

A *local*(*) VO interface may apply fewer data limits or quotas on requests coming from the local network.

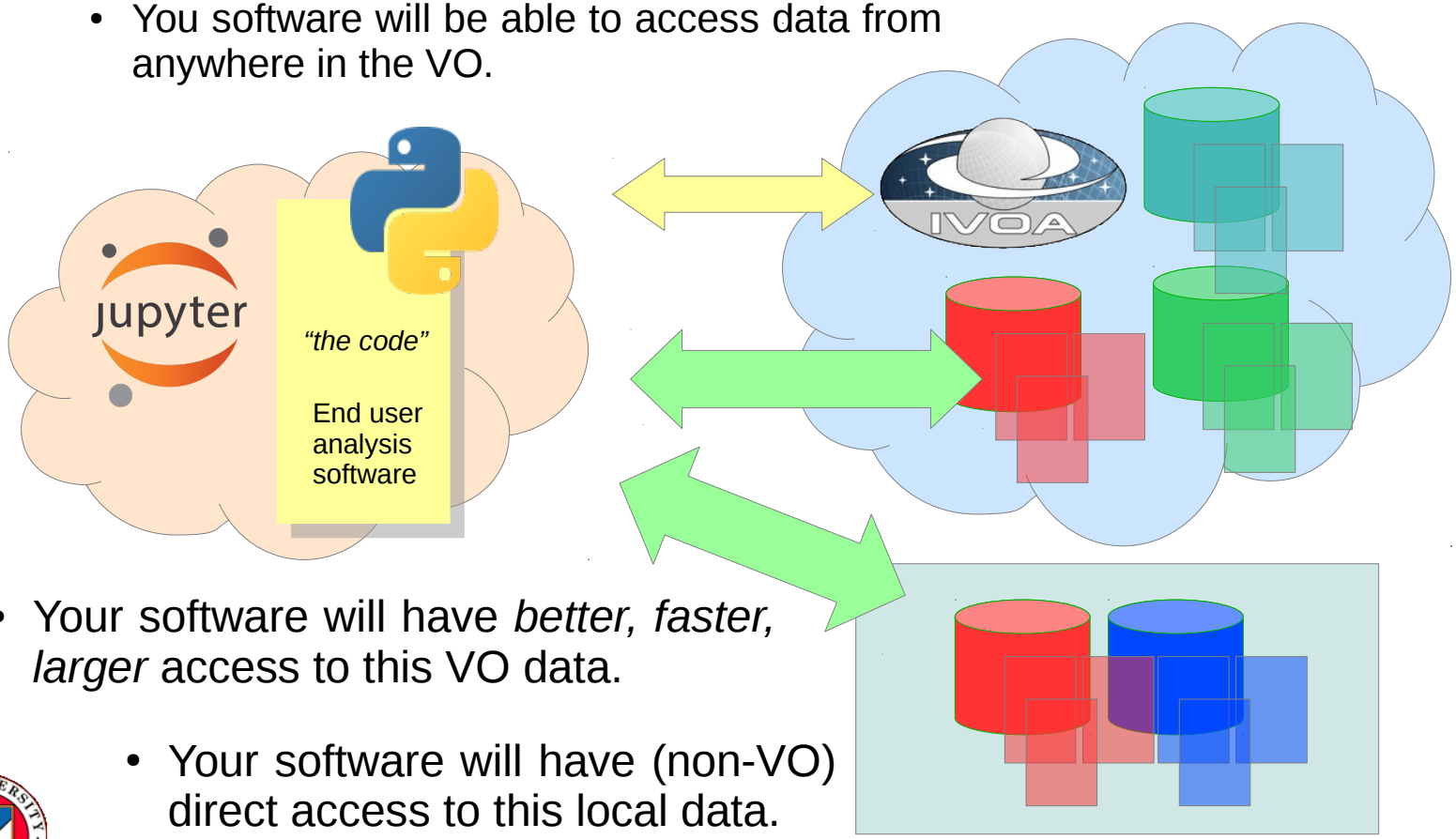


D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

How do we describe (advertise) all this to the user ?

How do we describe (advertise) all this to the software ?

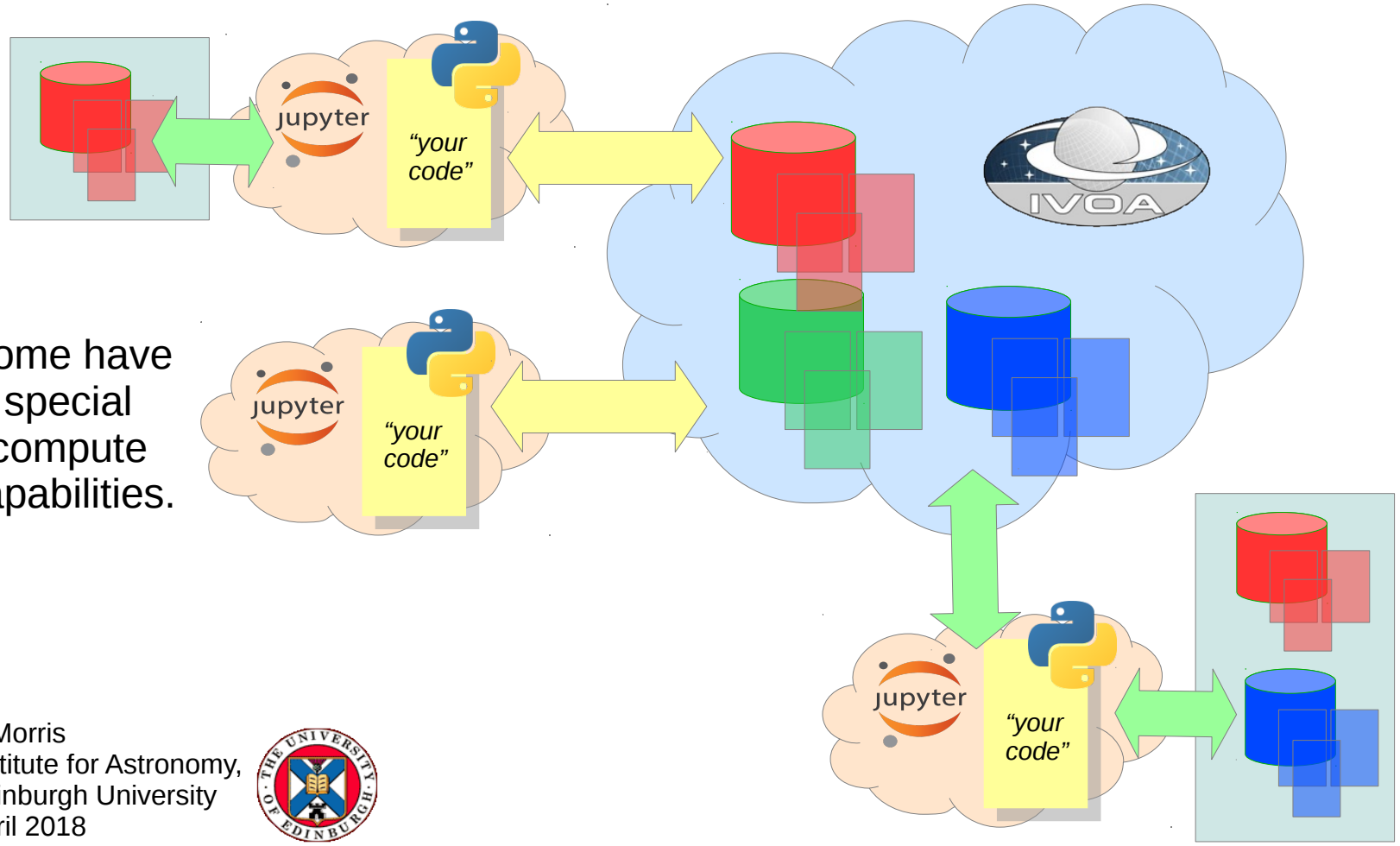
- You software will be able to access data from anywhere in the VO.



- Your software will have *better, faster, larger* access to this VO data.
- Your software will have (non-VO) direct access to this local data.

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

What happens when we have lots of these ?

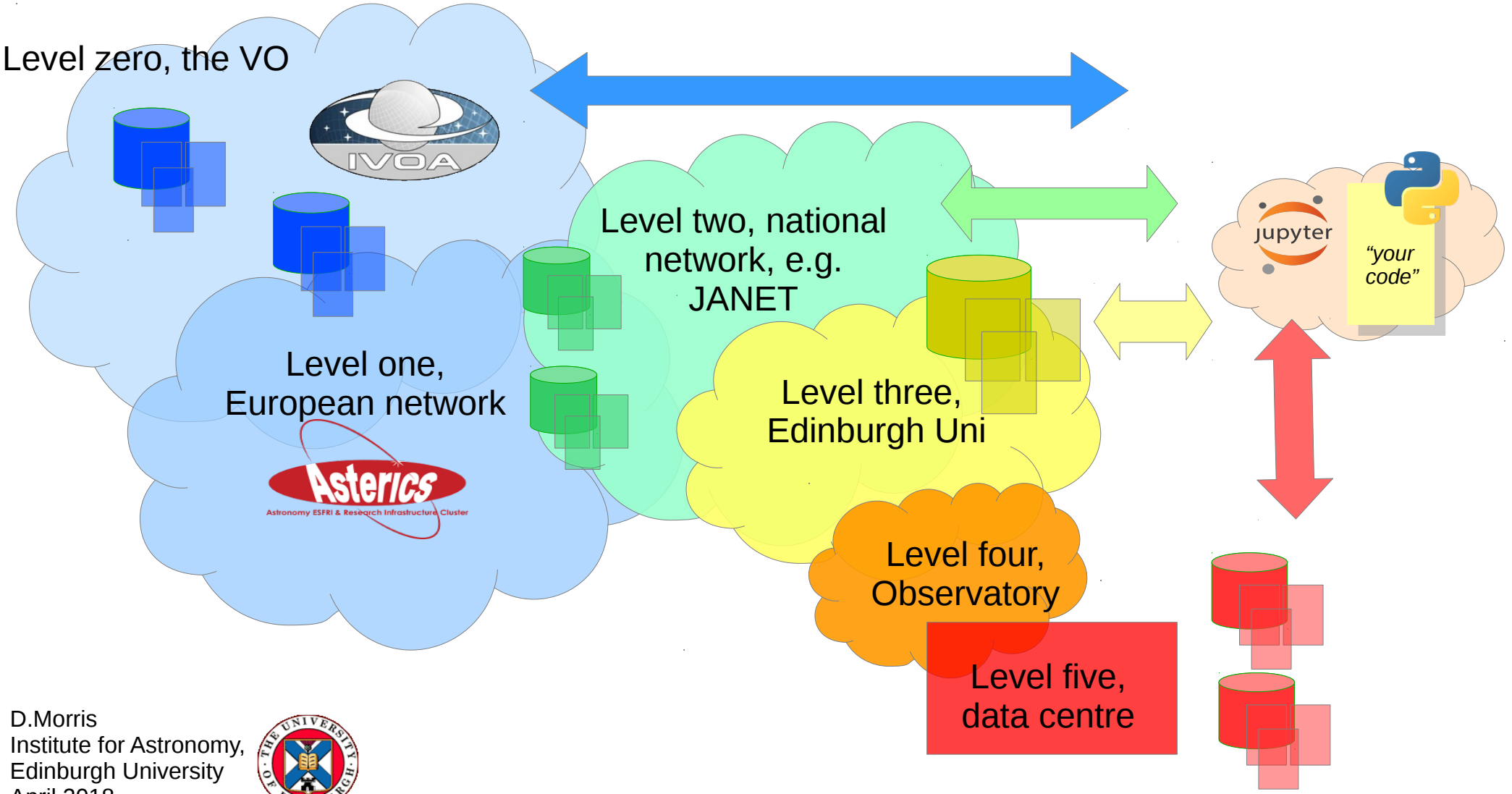


Some have special compute capabilities.

Some have lots of local data.

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

Can we model this as membership of *'zones'* ?



D.Morris
Institute for Astronomy,
Edinburgh University
April 2018

- Where do we put this description ?
  - Can the registry describe things that are '*internal*' to a zone ?
  - Do we need something else ?

D.Morris
Institute for Astronomy,
Edinburgh University
April 2018