Theory protocols
SimDAL, SimDAP, SimTAP, S3?

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Functionalities
A simple protocol

Discover Protocols
Discover Results
Download files

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Functionalities

Three main functionalities needed:

- Discover interesting *Protocols*
    - Discover isochrone models in the VO (with some characteristics)

- Discover interesting results for a given *Protocol*
    - Find the Nextgen isochrones for a given age range.

- Download a given result in a efficient way.

Functionalities
A simple protocol

Discover Protocols
Discover Results
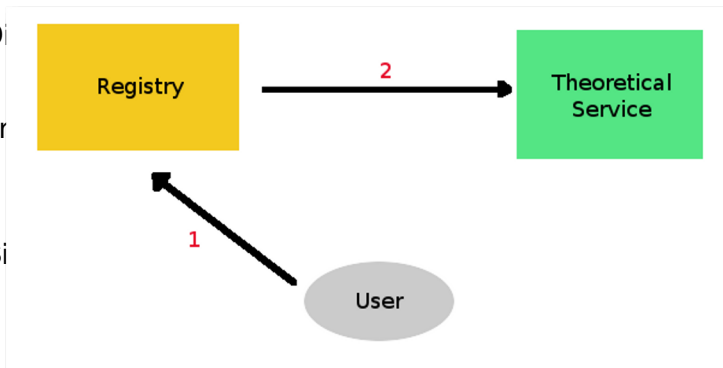Download files

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Discover *Protocols*

Discover *protocols*:

- Directly in the Registry
  - Points to a specific service.

- From a centralized SimDB service
  - Allows for a more detailed selection.
  - TAP

- SimDB:
  - Points to a specific service.
    - A service offering NextGen isochrones...
  - Stay in SimDB and continue using TAP to find more.
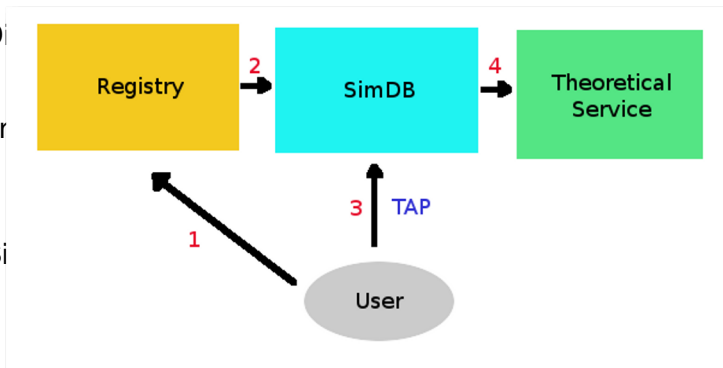
Discover *Protocols*

Discover *protocols*:

- Di

- Fr

- Si

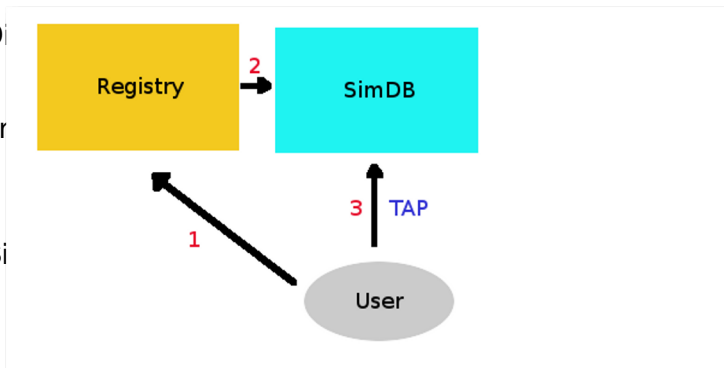# Discover *Protocols*

Discover *protocols*:

- Di

- Fr

- Si

Discover *Protocols*

Discover *protocols*:

- Di

- Fr

- Si

Discover *Experiments*

Discover interesting results from a *Protocol*:

- Directly in a centralized SimDB service
  - TAP
  - Difficult? (implementation of the complex simDM datamodel in a general DB will imply complex queries, lots of table joins, etc.)

- In a service elsewhere offering the NextGen isochrones.
  - ???

Discover *Experiments*

Disco   int   ti   su   f   P   *ol*:

- D

    SimDB ➔ result 1
              result 2
              ...

                                          simDM datamodel
                                       es, lots of table

    TAP

- I   en isochrones.

    User

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Discover *Experiments*

Disco   i   ti   lt f   *P*   *ol*:

- D

        simDM datamodel
        es, lots of table

- Ir   en isochrones.

Functionalities
A simple protocol

Discover Protocols
Discover Results
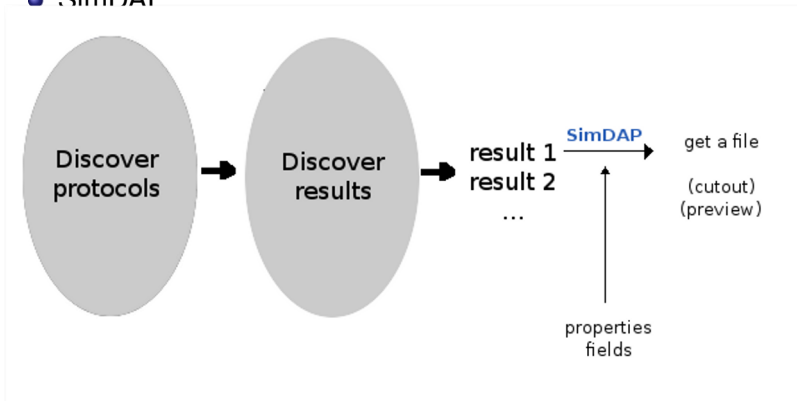Download files

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Download a Result: SimDAP

Download a Result in a efficient way:

- SimDAP
    - Designed to do this.
    - download,cutout, preview...
    - great idea (not only for theory)

- A result must be specified with:
    - AccessURL
    - Properties (*isochrone*)
    - Fields for each property (*mass,luminosity,Mv...*)

- The user can download
    - A "complete" property (let's say "a file"),
    - A cutout of the isochrone for a given range of a property,
    - etc

Functionalities
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SVO
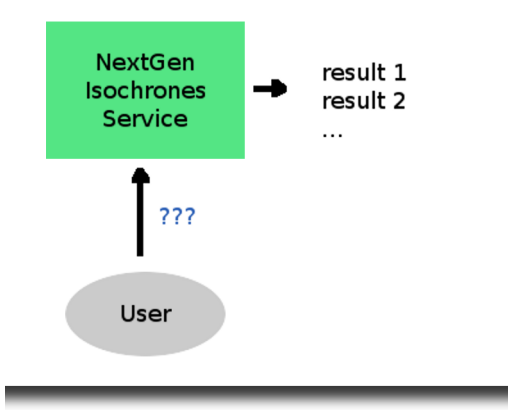
Download a Result: SimDAP

Download a Result in a efficient way:

- SimDAP

- etc

Discovering results?

Discovering results?

- Many theoretical models are often developed by

  - **a small team.**
  - **focused on science, not computing.**

- They want to make their model available in the VO, but probably

  - not to study long and complex protocol definitions.
  - not to invest much time (or people) in developing a complex service.
 - sometimes don't want "free" TAP queries but only the ones that they thing are the right ones.

Discovering results?

$\Longrightarrow$ **a simple S*AP, DAL(l) protocol (please)**

- **SimDAL?**

- S3 was designed to do this.

- Needs some additions to
  - connect to SimDAP properly.
  - specify how to use the SimDM model for characterization.

- Its right place in the *game* is as an alternative to TAP for implementing a service to find results for an specific *Protocol*.
  - a service for NextGen isochrones, for instance.

Discovering results?

$\implies$ **a simple S*AP, DAL(I) protocol (please)**
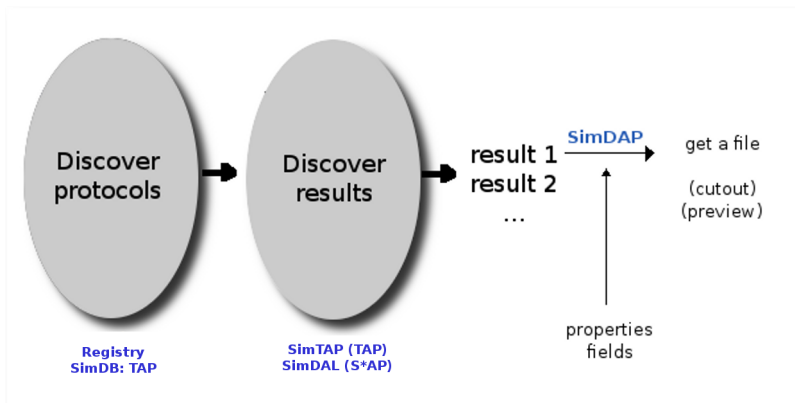
Discovering results?

a simple S*AP,DAL(I) protocol

- easy to develop.
  - simple operations.
  - uses a simplified version of the SimDM data model

- flexible.
  - developers can decide how to organize the information.
    - info given to charcterize a result but not used for queries.
  - allows results calculated on-the-fly.
  - several different services available (S3):
    - isochrones, synthetic photometry, asteroseismology

- easy to access by applications.
  - very similar to other simple VO protocols.

THANK YOU!