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MICADO DFS dossier

To recap, my baseline idea is the following:

1. Write our data reduction software (DRS) deliverables to ESO to their specs: something like attached vlt-spe-eso*.pdf is expected. So these are the pipelines.

2. Take these pipeline products and embed it into a prototype data handling system (DHS) to support our work in the development and testing phase of the pipelines. This way the pipelines get connected to an archive from which they can take input data (simulated or real) and store their results. The DHS can be accessed via web services and command-line for archiving and processing. The webservice does not require a local installation of software, the command-line does require a local installation.

So the system yields an environment in which we (Austria and NL) can collaborate during developing, testing, verifying and validating the pipelines and have a common archive of the simulated data and lab test data.

Having such an prototype DHS turned out to be very handy for the DRS development phase for MUSE, as explained in the presentation by Rees Williams.

Expertise to build and run the DHS is available in Groningen. My idea is that as a start we get such a prototype DHS running at Groningen which Austria and Groningen can both use. This relieves each Austrian institute from having the expertise and meeting the technical specifications to run it.

Austria can access the Groningen installation via webservices and command-line (via remote login on our Groningen network). So having the DHS only installed in one place is perfectly doable to collaborate. It only means all hardware connected (a database, storage and compute resources) have to be physically there. If Austria wants to pool in such resources for MICADO we can install it in Austria as well. And if Austria wants to build up DHS expertise as well that is also an option. So do not get me wrong: I am very positive towards the idea of Austria also installing the DHS in general.

If we go for the only-at-Groningen scenario as a start what is left are the technical specifications to embed the DRS into the DHS prototype. What is needed is an xml definition of the DRS design and knowledge of python.

The xml modelling is needed to map the DRS onto the DHS system design in a straightforward way re-using mapping tools we built for MUSE. The DHS is written in python (i.e.

as a 'glue' language) using its object oriented programming approach.
Lastly, the DHS takes its DRS software from a code repository. Currently we use CVS.

If Austria wants to build-up DHS expertise rather sooner than later I am happy to go more into the technical specifications of the DHS in

So now to the technical specifications for the DHS.

The DHS consists of a software repository, a database, a dataserer and Distributed Processing Unit
The DHS stores the pipeline software in a software repositories that can be accessed across institutes (currently we work with CVS for the repository).

The database is an Oracle database (but can become a different one, e.g., MySQL if we would want to).

(software that allows to connect the DHS to storage hardware, irrespective of the type of hardware and the physical location of the hardware)

(software that allows to connect the DHS to compute clusters, irrespective of the type of hardware and the physical location of the hardware). These components are used by webservices that create a weThe dataserer is the core component of the archive which we have My idea would be that we start with the database, dataserer and Distributed Processing Unit in Groningen only and that Austria connects to this via webservices

Once pipeline development has frozen we can turn the prototype into a real data handling system for commissioning and GTO data handling. Again, MUSE has done this.

Now on time-lines.

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