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## **C5.141 Integration with central services (e.g. IPNI, GNA)**

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<b>Dissemination Level</b>		
<b>PU</b>	Public	X
<b>PP</b>	Restricted to other programme participants (including the Commission Services)	
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission Services)	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

## Integration with central services (e.g. IPNI, GNA)

Many institutions and organizations throughout the world do offer taxonomy related data online. One of the objectives of EDIT is it to ease the process of integrating such data into the taxonomist's every day workflow.

IT tools currently used by taxonomists usually do not have specific functionality to easily integrate such data. Instead either advanced IT knowledge is needed or work intensive and error-prone processes such as copy & paste have to be employed to transfer and transform data.

Results from testing of the Taxonomic Editor (C5.131) also have shown that there is an explicit need expressed by users for functionality that integrates external data sets and other resources such as IPNI and GBIF.

Integration of central services has been implemented within the CDM Library (<http://wp5.e-taxonomy.eu/cdmlib/site/>) - one of the core components of the EDIT Platform for Cybertaxonomy. Many other applications such as the Taxonomic Editor, the EDIT Data Portals and the EDIT Community Stores (CDM servers) run on top of this library.

Different workflows are available to integrate data from central services. The main workflow uses adapter functionality implemented in the ext(-ernal) module of the CDM library (<http://wp5.e-taxonomy.eu/cdmlib/site/cdmlib-ext/project-reports.html>). A second workflow allows querying data via existing interfaces and bulk importing them into the data source via the import functionality of the CDM Library's IO module.

The latter workflow is meant mainly for specimen data coming from GBIF using the GBIF portal or the taxonomy oriented EDIT Specimen and Observation Explorer for Taxonomists (<http://search.biocase.org/edit/>). It has been previously described (C 5.91).

The adapter based implementation offers interfaces very similar to those available for querying CDM Community Stores via the CDM Library's service module. It returns a list of CDM objects that do match the parameter values passed to the module.

As the return type of the external services is similar to the one of internal services it can be used in the same way and even in parallel to internal services commonly used by CDM based tools and applications. E.g. the Taxonomic Editor already offers functionality to choose literature references from existing references in a given CDM datastore or from the external IPNI service. The result list is displayed in the same user interface to let the user choose from a list the most appropriate record.

As the external services integration is part of the CDM Library it can be used not only for direct user interaction via GUIs but also for internal data processing. So, services already have been integrated into data import routines for on-the-fly data consistency checks and conflict resolution improvement.

The following central services have been intergrated so far:

- IPNI name service - <http://www.uk.ipni.org/ipni/advPlantNameSearch.do> & <http://www.uk.ipni.org/ipni/simplePlantNameSearch.do>
- IPNI author service - <http://www.ipni.org/ipni/advAuthorSearch.do>
- IPNI publication service - <http://www.uk.ipni.org/ipni/advPublicationSearch.do>
- Biodiversity collection index (BCI) - <http://www.biocol.org/rest/>
- GRIB - <http://gso.gbv.de/sru> (see C 5.143 for detailed information)

- GBIF (only ABCD based data) - <http://data.gbif.org>
- EDIT Specimen and Observation Explorer for Taxonomists (all data) - <http://search.biocase.org/edit/>

Further services are planned to be integrated:

- Integrated Taxonomic Information System (ITIS) - <http://www.itis.gov>
- Tropicos (Missouri Botanical Gardens)
- Global Name Architecture (not yet available)