

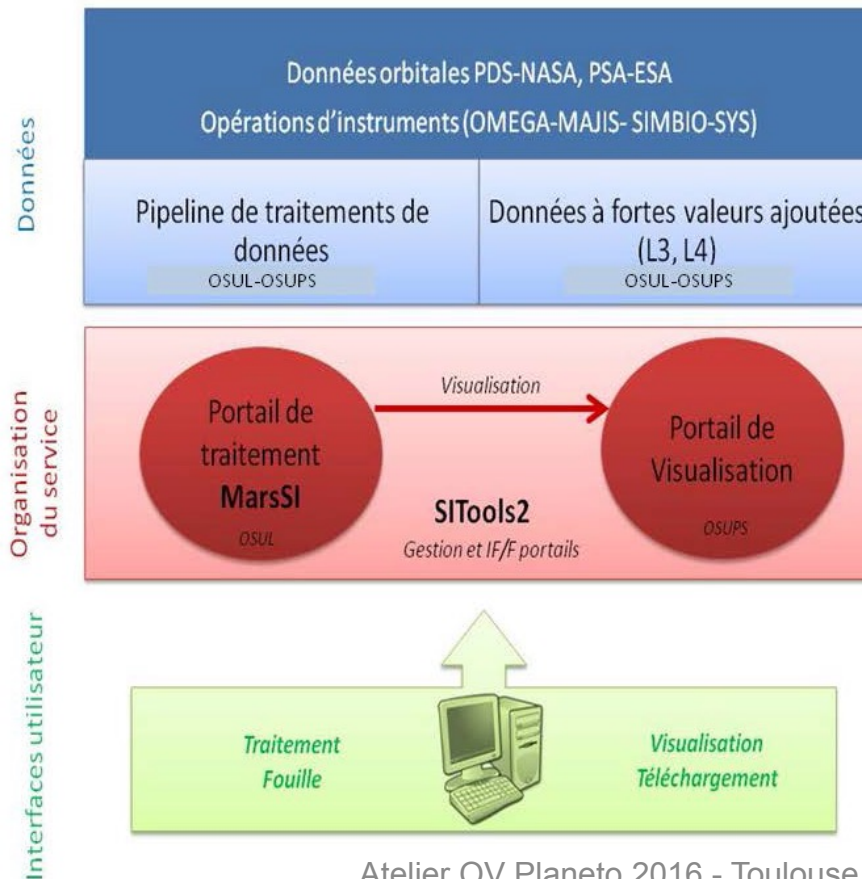
PSUP – Volet MarsVisu

OSUPS (IAS – GEOPS)
Karin Dassas pour l'équipe PSUP à l'IAS

Description de PSuP : Planetary SURface Portal

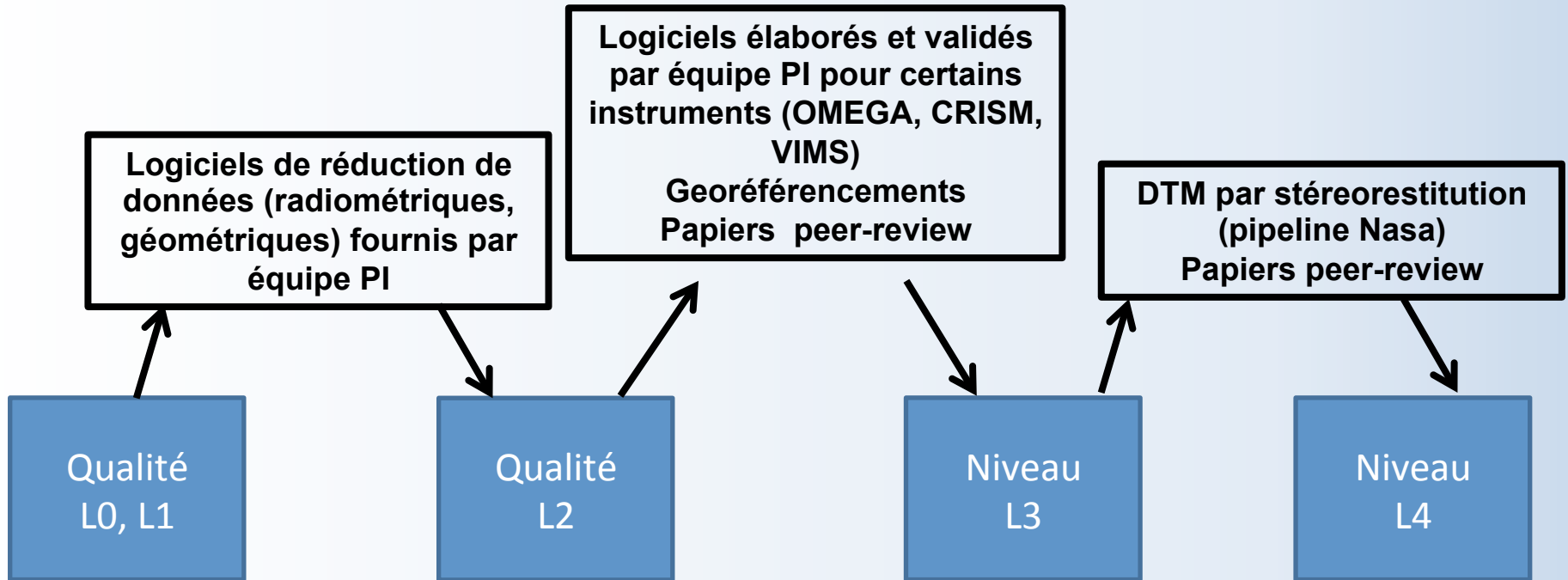
Centre de traitement de données de surfaces planétaires (MarSI-OSUL) couplé à un centre de diffusion et de visualisation de données à fortes valeurs ajoutées (MarsVISU-OSUPS).

- **SNO5 PSuP Planetary SURface Portal (OSUL and OSUPS)**
- PSuP (Portail des SURfaces Planétaires) consiste en un centre de traitement de données de surfaces planétaires couplé à un centre de diffusion et de visualisation de données à forte valeur ajoutée.





Niveau de validation et qualité des données





PSuP Interface

Planetary SURface Portal

Home | Project Description | **MarsSI** | **Mars Visu**

Welcome to the Planetary SURface Portal (PSUP)

This facility involves a data processing center coupled with planetary surface data dissemination center (mineralogical maps, geomorphologic maps, DTM...). Planetary SURface Portal is an initiative from OSUPS and OSUL. You can:

- Browse the catalog in the right window "datasets".
- Visualize in 2D or 3D the datasets with the module "Mars Visu" (🌍).
- Process DTM and other planetary datasets from the module "MarsSI" (🗺️).
- Download the data and additional information from any modules (📄 Downloads).

The database will be updated regularly to include new observations, new redshift estimates and new relevant information. You are encouraged to Register to the RSS 📡 to be kept up to date on new releases.



PSUP
SITOOLS2
TAP
TAP EPN

PSuP Data Products

The screenshot displays the Planetary Surface Portal web application. The main content area shows a 3D rendering of Mars with a color background and a Viking layer. The interface includes a navigation menu on the left, a search bar, and a datasets panel on the right.

Planetary Surface Portal

Navigation: Home | Project Description | MarsSi | Mars Visu

Search: Object name or coordinates

Left Panel (Layers):

- Catalogs
- Background Layers
- Mineral Layers
- MarsSI Data
 - emars_crisp
 - emars_ctx
 - emars_ctx_dtm
 - emars_hirise
 - emars_hirise_dtm
- Other

Right Panel (Datasets):

- datasets
 - OMEGA data Cubes
 - OMEGA mineral maps
 - Catalogs

Viking layer provided by Mars Dataset
Color background provided by Mars Dataset

Home | Mizar

SI TOOLS 2 INFORMATION SYSTEM TOOL

Copyright 2015 OSUPS/OSUL - Built with SITools2 framework

Contacts & Credits



PSUP
Sitoools2
TAP
TAP EPN

PSuP Demo

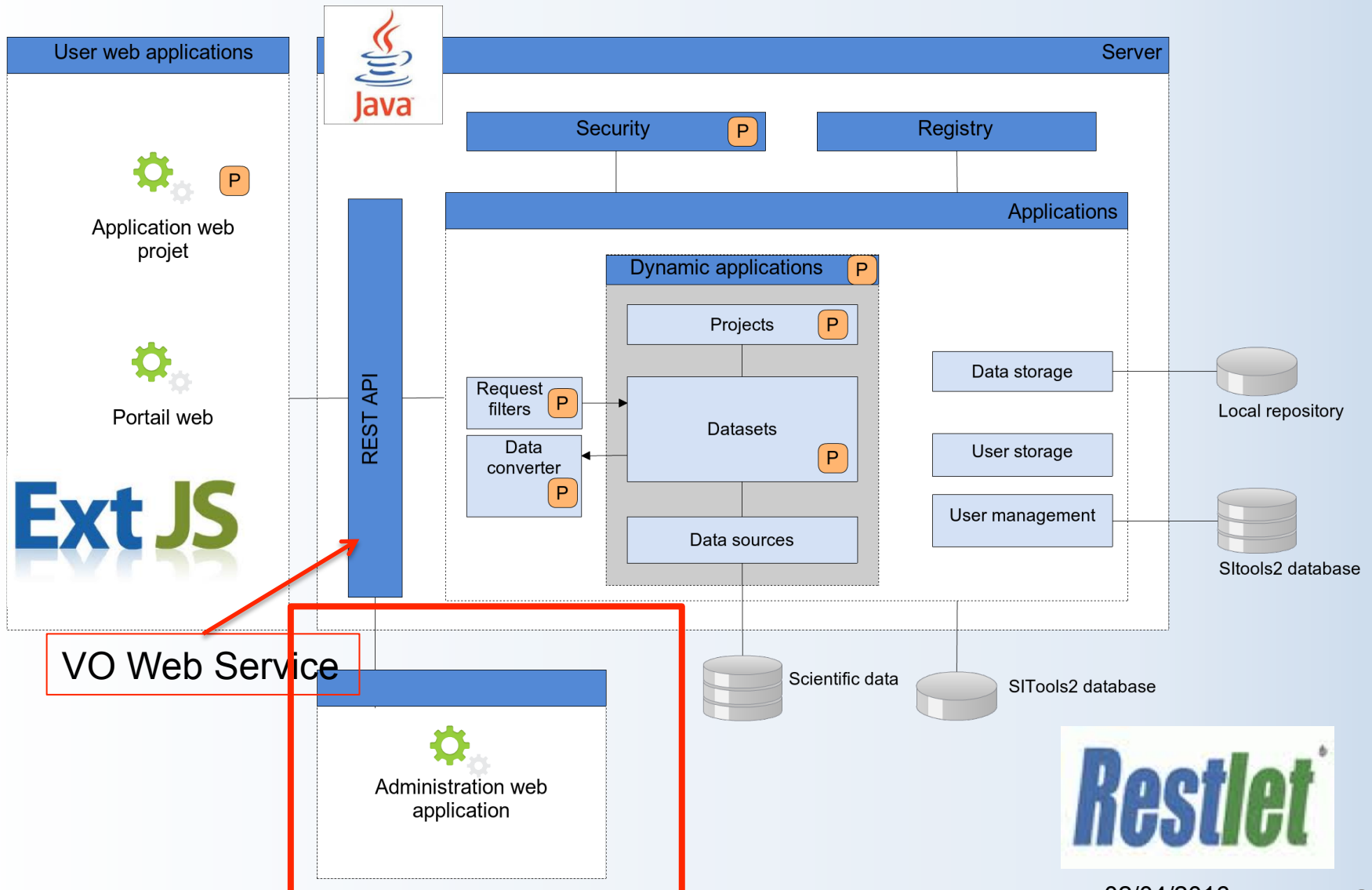
Demo_PSUPmizar.mkv



SITools2 Présentation

- Un outil générique du CNES issu d'une collaboration entre le CNES et plusieurs laboratoires spatiaux français.
- Il s'agit d'une application Client/Serveur sécurisée qui permet la gestion des droits utilisateurs et des données ainsi qu'un accès aux données à travers une interface Web 2.
- L'ajout de plugins permet d'ajouter des fonctionnalités aussi bien au niveau client qu'au niveau serveur (cas pour le web service VO).
- <https://github.com/SITools2>
- Contact: jean-christophe.malapert@cnes.fr

SITools2 General Architecture





SITools2 (v2.6) HESIOD administration interface

HESIOD (**HErSchel IdOc Database**) Portail IDOC = Integrated Data and Operation Center

<http://idoc-herschel-test.ias.u-psud.fr/client-admin/>

The screenshot displays the SITools2 Admin interface. The top navigation bar includes the CNES logo, the text 'SITOOOLS ADMIN', and user information: 'Welcome admin', 'Version', 'Show Help', 'Advanced Mode', and 'Logout'. On the left, a 'Menu' sidebar lists various administrative categories such as User Management, Security Management, Data Management, Access Management, Datasets, and Utilities. The main content area, labeled 'Main', features a large blue gradient background with the text 'WELCOME TO SITOOOLS ADMIN' in a bold, blue, sans-serif font.

SITools VO services available

Create service

Name	Service class name	Author	Version	Owner
AnalogService	fr.cnes.sitools.resources.programs.SitoolsAnalogServiceM...	AKKA Technolo...	0.2	CNES
CommandLineServiceModel	fr.cnes.sitools.resources.programs.CommandLineService...	AKKA Technolo...	0.1	CNES
Corot ID Resolver service	fr.ias.sitools.astro.resolverName.CorotIdResolverModel	Marc NICOLAS	0.6.1	IAS
Corot ID Resolver service	fr.ias.sitools.astro.resolverName.CorotIdResolverModel	Marc NICOLAS	0.6.1	IAS
Coverage service	fr.cnes.sitools.extensions.astro.resource.SkyCoverageRes...	J-C Malapert	1.0	CNES
CsvResourceModel	fr.cnes.sitools.resources.csv.CsvResourceModel	AKKA Technolo...	0.1	CNES
cut out service	fr.cnes.sitools.extensions.astro.resource.CutOutResource...	J-C Malapert	1.0	CNES
Simple Cone Search Protocol	fr.cnes.sitools.extensions.astro.resource.ConeSear...	J-C Malapert	1.0	CNES
Simple Image Access Protocol	fr.cnes.sitools.extensions.astro.resource.SimpleIma...	J-C Malapert	1.0	CNES
Simple Spectral Access Protocol	fr.ias.sitools.resources.vo.SimpleSpectralAccessRe...	Mnicoals	0.1	IAS
Solar object service	fr.cnes.sitools.extensions.astro.resource.ConeSear...	J-C Malapert	1.1	CNES

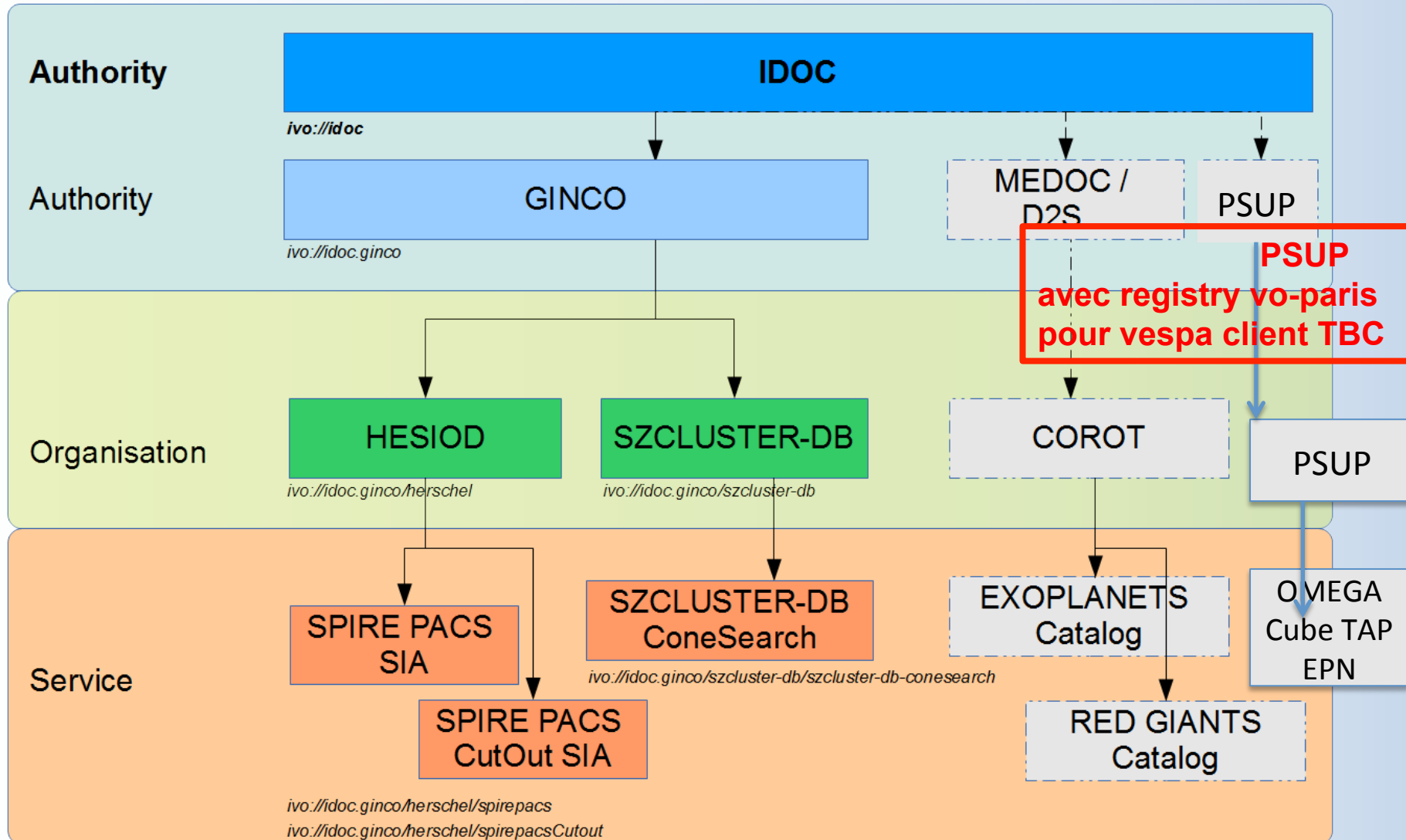
Add

JeoSearchResourceModel MongoDB	fr.cnes.sitools.resources.geojson.JeoSearchResourceMon...	AKKA Technologies	0.1	CNES
JeoSearchResourceModel PostGis	fr.cnes.sitools.resources.geojson.JeoSearchResourcePost...	AKKA Technologies	0.2.1	CNES
Name Resolver service	fr.cnes.sitools.extensions.astro.resource.NameResolverRe...	J-C Malapert	1.0	CNES
OrderResourceModel	fr.cnes.sitools.resources.order.OrderResourceModel	AKKA Technolo...	0.1	CNES
ProgramResourceModel	fr.cnes.sitools.resources.programs.UlisseTalendJobResou...	AKKA Technolo...	0.3	CNES
Reverse Name Resolver service	fr.cnes.sitools.extensions.astro.resource.ReverseNameRe...	J-C Malapert	1.1	CNES
ShowHeaderModel	fr.ias.sitools.resources.fits.ShowHeaderModel	Marc NICOLAS	0.1	IAS
ShowHeaderModel	fr.ias.sitools.resources.fits.ShowHeaderModel	Marc NICOLAS	0.1	IAS
Simple Cone Search Protocol	fr.cnes.sitools.extensions.astro.resource.ConeSearchReso...	J-C Malapert	1.0	CNES
Simple Image Access Protocol	fr.cnes.sitools.extensions.astro.resource.SimpleImageAcc...	J-C Malapert	1.0	CNES
Simple Spectral Access Protocol	fr.ias.sitools.resources.vo.SimpleSpectralAccessResource...	Mnicoals	0.1	IAS
Solar object service	fr.cnes.sitools.extensions.astro.resource.ConeSearchSolar...	J-C Malapert	1.1	CNES
VOTable2GeoJson	fr.cnes.sitools.extensions.astro.resource.Votable2GeoJso...	J-C Malapert	1.0	CNES

Delete

1. Select a dataset in the dataset list
2. Select a dataset resource in the list
3. Click on Delete

Registered IDOC VO services (euro-vo)





SITools VO service TAP - plugin

Main

Dataset services

spire_catalog + Add GUI Service + Add SERVER Service ✎ Edit 🗑 Delete 💾 Save properties ⬆ ⬆ ⬆ ⬆

Type	Name	Description	Label ✎	Category ✎	Position ✎	Icon	Visible ✎
GUI	Columns Definition	retrieve the columns definition for a dataset	label.definitionTitle				<input type="checkbox"/>
GUI	Filter Tool	a filter tool for dataset	label.filter				<input type="checkbox"/>
GUI	Record details Service	Display the details of a selected record	label.details				<input type="checkbox"/>
GUI	Sorter Tool	a GUI service to sort	label.multiSort				<input type="checkbox"/>
SERVER	Table Access Protocol	This plugin provides an access to your data th...					<input type="checkbox"/>
GUI	ViewCubeFits	service to display spectrum cube data	label.cubeExplorer				<input type="checkbox"/>
GUI	viewShowHeader	display the showHeader GUI service	View Header				<input type="checkbox"/>
GUI	Window Image Zoomer	Display an image with zoom functions	label.windowImgZoomer				<input type="checkbox"/>

⏪ ⏩ Page 1 of 1 ⏪ ⏩ Display 1 - 8 to 8

Single click on the + icon to add dataset services



SITools VO service TAP - plugin

TAP-1.1-20150512.pdf

[ADQL-20081030.pdf](#) (ADQL 2.0)

UCDlist-20070402.pdf

Java 1.6 - postgres (PostgreSQL) 8.3.1

<https://git.ias.u-psud.fr/hballans/sitools-idoc/>

ADQL Library1.1 from CDS (Grégory Mantelet)

<http://cdsportal.u-strasbg.fr/adqltuto/>

VOTable 1.2

herve ballans / sitools-idoc

Search in this project

master sitools-idoc / .. / vo / tap / +

Download zip

Name	Last Update	Last Commit	History
..		94284c9a – ajout du dev sur le protocol TAP	
DataModellInterface.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolAsynchronousResponse....	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolDataModellInterface.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolException.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolInputParameters.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolLibrary.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	
TableAccessProtocolResponse.java	about 3 hours ago	marc nicolas ajout du dev sur le protocol TAP	

SITools VO service TAP - plugin

```
4  * and open the template in the editor.  
5  */  
6  
7  package fr.ias.sitools.vo.tap;  
8  
9  import adql.parser.ADQLParser;  
10 import adql.parser.ParseException;  
11 import adql.query.ADQLQuery;  
12 import adql.translator.ADQLTranslator;  
13 import adql.translator.PostgreSQLTranslator;  
14 import adql.translator.TranslationException;  
15 //import fr.cnes.sitools.astro.representation.DatabaseRequestModel;  
16 import fr.cnes.sitools.common.exception.SitoolsException;  
17 import fr.cnes.sitools.dataset.DataSetApplication;  
18 import fr.cnes.sitools.dataset.converter.business.ConverterChained;  
19 import fr.cnes.sitools.dataset.database.DatabaseRequest;  
20 import fr.cnes.sitools.dataset.database.DatabaseRequestFactory;  
21 import fr.cnes.sitools.dataset.database.DatabaseRequestParameters;  
22 import fr.cnes.sitools.dataset.database.common.DataSetExplorerUtil;  
23 import fr.cnes.sitools.dataset.dto.ColumnConceptMappingDTO;  
24 import fr.cnes.sitools.dataset.dto.DictionaryMappingDTO;  
25 import fr.cnes.sitools.dataset.model.Column;  
26 import fr.cnes.sitools.dataset.model.Predicat;  
27 import fr.cnes.sitools.dictionary.model.Concept;  
28 import fr.cnes.sitools.plugins.resources.model.ResourceModel;  
29 import fr.cnes.sitools.util.Util;  
30 import fr.ias.sitools.vo.representation.DatabaseRequestIasModel;  
31 import freemarker.template.TemplateSequenceModel;  
32 import java.math.BigInteger;  
33
```

Modules de la librairie CDS utilisés :

AQLParser

PostgreSQLTranslator

Coming soon :
utilisation de PGSphereTranslator

PostGISTranslator ?



SITools VO service TAP - plugin

- Requête ADQL :

```
SELECT TOP 5 ra,dec,flux FROM spire_catalog WHERE flux > 500
```

- Requête PSQL traduite :

```
SELECT ra AS ra , dec AS dec , flux AS flux  
FROM spire_catalog  
WHERE flux > 500  
Limit 5
```

- Requête envoyée par SiTools2:

```
SQL = SELECT "spire_catalog".ra as ra, "spire_catalog".dec as dec,  
"spire_catalog".flux as flux, "spire_catalog".source_id as source_id  
FROM "public"."spire_catalog" WHERE 1=1 and ("spire_catalog".source_id<=35000 )  
AND flux > 500 ORDER BY "spire_catalog".source_id ASC
```

SITools VO service TAP - configuration

Dataset services

spire_catalog

1 : rajout du service TAP pour un dataset donné (SPIRE_CATALOG ici)

Type	Name	Description	Label	Categ
GUI	Columns Definition	retrieve the columns definition for a dataset	label.definitionTitle	
GUI	Filter Tool	a filter tool for dataset	label.filter	
GUI	Record details Service	Display the details of a selected record	label.details	
GUI	Sorter Tool	a GUI service to sort	label.multiSort	
SERVER	Table Access Protocol	This plugin provides an access to your data throu...		
GUI	ViewCubeFits	service to display spectrum cube data	label.cubeExplorer	
GUI	viewShowHeader	display the showHeader GUI service		
GUI	Window Image Zoomer	Display an image with zoom functions		

3 : définition du dictionnaire pour SPIRE Catalog

Name	Description	ID	code	type	datatype	width	precision	unit
source_id	primary key in spire catalog table				double			
ra	ICRS right-ascension of the cent...			pos.eq.ra	double			degree
dec	ICRS declination of the center of ...			pos.eq.dec	double			degree
object	Observed source viewed on the ...			src	char			
log					double			
y	coord y				double			
rapluserr	ra + err				double			
decpluserr	dec + err				double			
raminuserr	ra - err				double			
decminuserr	dec - err				double			
xpluserr	x + err				double			
ypluserr	y + err				double			
xminuserr	x - err				double			
yminuserr	y - err				double			
flux	Flux density in mJ/?			phot.flux.density	double			mJ
fluxpluserr	flux + err				double			

2 : configuration du service TAP

Edit service

Name: Table Access Protocol
Purpose: DISPLAY_IN_DESKTOP
Behavior: DISPLAY_IN_DESKTOP

Parameters Mapping

Name	Type	Value
url	PARAMETER_ATTACHMENT	/plugin/services/vo/tap/{tapRequestType}
methods	PARAMETER_INTERN	GET
fileName	PARAMETER_USER_INPUT	
image	PARAMETER_INTERN	
PARAM_Dictionary	PARAMETER_INTERN	TableAccessProtocolForSpireCatalog
Description	PARAMETER_INTERN	Spire Source Catalog Table Access Service
Service Name	PARAMETER_INTERN	Table Access Protocol
Instrument	PARAMETER_INTERN	Spire
Max records	PARAMETER_INTERN	-1

SITools VO service TAP - résultat

http://idoc-herschel-test.ias.u-psud.fr/ds/priv/spirecatalog/plugin/services/vo/tap/sync?REQUEST=doQuery&PHASE=RUN&QUERY=SELECT%20ra,%20dec,%20flux%20FROM%20spire_catalog%20WHERE%20flux%20%3E%20500&FORMAT=votable&LANG=ADQL

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```

<VOTABLE xmlns="http://www.ivoa.net/xml/VOTable/v1.2" version="1.2">
  <RESOURCE type="results">
    <INFO name="QUERY_STATUS" value="OK"/>
    <INFO name="ADQL query" value="SELECT source_id,ra,dec,flux FROM spire_catalog WHERE flux > 300"/>
    <PARAM name="Instrument" datatype="char" value="Spire"/>
    <PARAM name="Service Name" datatype="char" value="Table Access Protocol"/>
    <FIELD name="source_id" datatype="double" arraysize="*">
      <DESCRIPTION>primary key in spire catalog table</DESCRIPTION>
    </FIELD>
    <FIELD name="ra" ucd="pos.eq.ra" datatype="double" unit="degree">
      <DESCRIPTION>ICRS right-ascension of the center of the image</DESCRIPTION>
    </FIELD>
    <FIELD name="dec" ucd="pos.eq.dec" datatype="double" unit="degree">
      <DESCRIPTION>ICRS declination of the center of the image</DESCRIPTION>
    </FIELD>
    <FIELD name="flux" ucd="phot.flux.density" datatype="double" unit="mJ"/>
      <DESCRIPTION>Flux density in mJ/?</DESCRIPTION>
    </FIELD>
    <TABLE nrows="92">
      <DATA>
        <TABLEDATA>
          <TR>
            <TD>1000</TD>
            <TD>80.7426</TD>
            <TD>-36.45874</TD>
            <TD>1959.0992</TD>
          </TR>
          <TR>
            <TD>1345</TD>
            <TD>287.7903</TD>
            <TD>-20.114862</TD>
            <TD>446.9112</TD>
          </TR>
          <TR>
            <TD>1489</TD>
            <TD>291.2125</TD>
            <TD>-29.241245</TD>
            <TD>953.7273</TD>
          </TR>
          <TR>
            <TD>2336</TD>
            <TD>181.69522</TD>
            <TD>-19.114862</TD>
            <TD>446.9112</TD>
          </TR>
        </TABLEDATA>
      </DATA>
    </TABLE>
  </RESOURCE>
</VOTABLE>

```

TAP- EPN @ PSUP

- EPN_TAP_v_0.4e.pdf
- Création d'une vue : « A table (or view) called *epn_core* must be present and must contain all the EPNCore mandatory parameters. »
- Cas simple : 1 entrée par fichier

<input type="checkbox"/>	download	startdate	enddate	orbit_number	cube_number	solar_longitud	easternmost_l	westernmost_	minimun latit
<input type="checkbox"/>		2004-09-28...	2004-09-28...	888	4	93.581	183.698	181.42	25.1875
<input type="checkbox"/>		2004-09-28...	2004-09-28...	888	2	93.576	192.349	162.317	57.9375
<input type="checkbox"/>		2004-09-28...	2004-09-28...	888	3	93.579	186.983	176.612	41.4688

TAP- EPN @ PSUP

<https://voparis-confluence.obspm.fr/display/VES/Setting+up+an+EPN-TAP+service>

Table of Contents

- Reference documents
- Associated files
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- Introduction
- ~~Selecting and documenting the data~~
 - Data Selection & service design
 - Data Documentation
- Building your service database
 - From an SQL procedure
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 - From a data VOTable
- Creating the epn_core view
- Converting the data files (optional)
- Documenting the service contents
 - Writing the q.rd file manually
 - Writing the q.rd file with DaCHS
 - Installing the q.rd file
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 - Tests using TOPCAT
 - Using VESPA with a registered service
 - Checking your service output
- Registering a service
- Annex: possible issues



Conclusion et perspectives

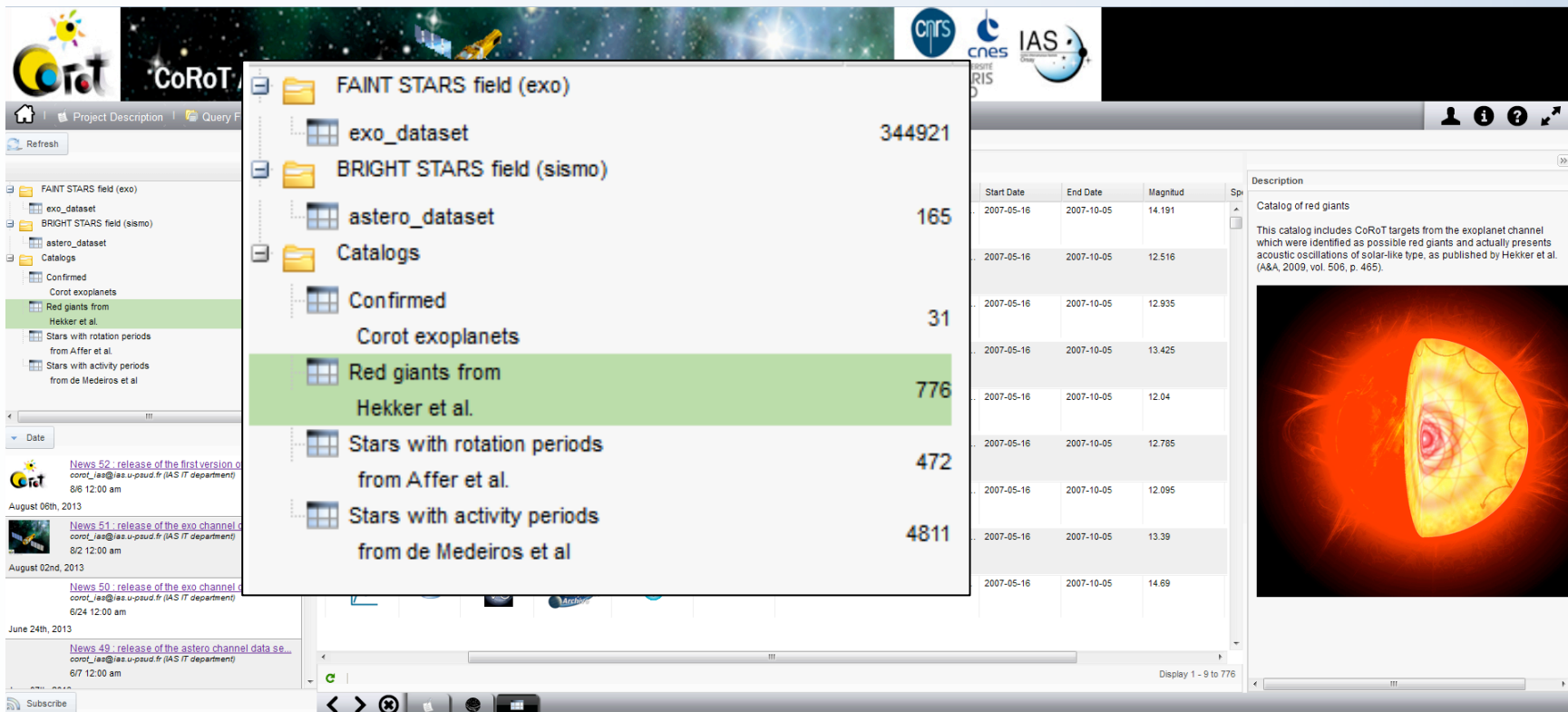
- Portail PSUP
 - Améliorations en cours (rajout de données, précision des positions, rajout des footprints des cubes OMEGA, fond CTX...)
 - Projet d'explorateur de cube spectral (lié au dataset, et avec MIZAR)
 - Nouveau... Regard 2017 (successeur Sitools2)
- TAP :
 - implémentation en bonne voie grâce à la librairie ADQL du CDS
 - fonctions mathématiques et géométriques (+ postGIS)
 - Validation
- TAP EPN : vue à créer et nouveau dictionnaire sitools à faire sur cette vue.
- VO-Paris registry
- Contacts IDOC VO: scientifique alexandre.beelen@ias.u-psud.fr, ingénieur karin.dassas@ias.u-psud.fr
- Contact SITools2 at IDOC hervé.ballan@ias.u-psud.fr Toulouse



ANNEXES

TAP @ IDOC

- Futur proche : Catalogues de sources Herschel, Planck
- Futur proche : Au moins 4 catalogues Corot IDOC



The screenshot shows the CoRoT IDOC interface. On the left, a file explorer displays a tree structure of data sets:

- FAINT STARS field (exo)
 - exo_dataset: 344921
- BRIGHT STARS field (sismo)
 - astero_dataset: 165
- Catalogs
 - Confirmed: 31
 - Corot exoplanets: 31
 - Red giants from Hekker et al.: 776
 - Stars with rotation periods from Affer et al.
 - Stars with activity periods from de Medeiros et al.: 4811

In the center, a table displays star data with columns for Start Date, End Date, Magnitud, and Sp. The table shows several rows of data, all with a Start Date of 2007-05-16 and an End Date of 2007-10-05.

Start Date	End Date	Magnitud	Sp
2007-05-16	2007-10-05	14.191	
2007-05-16	2007-10-05	12.516	
2007-05-16	2007-10-05	12.935	
2007-05-16	2007-10-05	13.425	
2007-05-16	2007-10-05	12.04	
2007-05-16	2007-10-05	12.785	
2007-05-16	2007-10-05	12.095	
2007-05-16	2007-10-05	13.39	
2007-05-16	2007-10-05	14.69	

On the right, a description for 'Catalog of red giants' is shown, along with an image of a red giant star.

Description
Catalog of red giants
This catalog includes CoRoT targets from the exoplanet channel which were identified as possible red giants and actually presents acoustic oscillations of solar-like type, as published by Hekker et al. (A&A, 2009, vol. 508, p. 465).

- TAP pour autres données MEDOC (filaments solaires...)

VO service TAP questions

Qu'est ce qu'un service TAP valide ?

MANDATORY synchrone et asynchrone, getCapabilities

sync /sync must (anonymous)

async /async must (anonymous)

VOSI-availability /availability should

VOSI-capabilities /capabilities must

VOSI-tables /tables should

DALI-examples /examples should



TAP 1.1 / 1.0 avec seulement `standardID="ivo://ivoa.net/std/TAP#sync-1.1`

*« In TAP-1.0 the base URL was described with a single standard identifier;
in TAP-1.1 and beyond, individual resources are described with their on
standardID. »*

TAP_SCHEMA ? Quand 1 table ?

Tests des erreurs