

VOParis Data Centre

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VOParis Organisation

Started 10 years ago to develop Virtual Observatory knowledge for data distribution at Observatoire de Paris

- Now a thematic organisation split in project groups mixing scientists and IT engineers to develop VO projects:**
 - Atomic and Molecular Physics**
 - Theory**
 - Solar system and Planetology**
 - Heliophysics**
 - Reference Systems**
 - Stars & Far Universe**

 - Interoperability, workflow and Big data**
 - Learning and public outreach**

Use of VO Protocol CS, SIA, SSA, TAP (PDAP)

VO-PARIS Data Centre Home Data Discovery Planetary Data

VO-Paris Data Centre

About

The VO-Paris Data Centre project aims at providing VO access to its database resources, at participating to international standards developments, at implementing VO compliant simulation codes, data visualization and analysis software.

[Learn more...](#)

Data Discovery Portal

The VO-Paris Data Centre Portal provides an easy way to access to all VO data available at Paris Observatories.

Getting Started

Use the query form on the right.

Projects

<p>WebSampConnector</p> <p>A client toolkit that enables Web page based astronomy service to interoperate and communicate with VO softwares (no more save and load or cut and paste into the VO world).</p> <p>WebSampConnector page...</p>	<p>VO-Paris PHP SDK</p> <p>An implementation of VO/VOEvent 1.1 and VOTable 1.x scheme in PHP. A partial implementation of RSS 2.0 scheme is also provided.</p> <p>RSS page...</p>	<p>Euro3D Client</p> <p>An open-source Virtual Observatory tool which allows to deal with datasets in the Euro3D FITS format.</p> <p>Euro3D Client page...</p>
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[Visit our projects page...](#)

Data Discovery

Cone Search Services (scs)

- [astrosolar flares encyclopedia](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/flare-encyclop...
 VO-compliant and interactive encyclopedia of solar flare planets.
- [Price Dispersion Services database](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/price-disp...
 VO-compliant publication of the properties of the 3630 galaxies that... [load more](#)

Image Services (sia)

- [serice - high-redshift radio galaxies survey](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/serice.php
 The radio galaxy survey (RAGS) is the largest and the first... [load more](#)
- [VIPSAT - ESO-R](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/voevent_esoradio...
 VO-compliant publication of Schmidt survey ESO-R of the southern sky... [load more](#)
- [VIPSAT - POSS-R](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/voevent_ross.php...
 VO-compliant publication of Schmidt survey POSS-R of the southern... [load more](#)
- [VIPSAT - SDSS](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/voevent_sdss.php...
 VO-compliant publication of Schmidt survey SDSS of the southern sky... [load more](#)

Spectrum Services (ssa)

- [PRISM - near infra-violet spectroscopic explorer](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/prism.php
 The near infra-red camera observations performed by prism satellite... [load more](#)
- [SDSS-APF 1D](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/ssa-galaxy_1d.php...
 The SDSS-APF archive contains all release observations performed with... [load more](#)
- [SDSS-APF 3D](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/ssa-galaxy_3d.php...
 The SDSS-APF archive contains all release observations performed with... [load more](#)
- [serice - high energy spectroscopic system](#) VOEvent 1/10
 http://voparis-vo.obspm.fr/arc/serice.php...

Request Summary

- target: ngc4444
- Size: 1,1
- Total: 2458410.016780802

Query status

target name or position *

[?] [X]

Resource status

- Available
- Not available
- Resource error

VO Applications

Launch also related applications

-
-
-
-

Use of web portal for VOParis data discovery
<http://voparis-srv.obspm.fr/portal/>

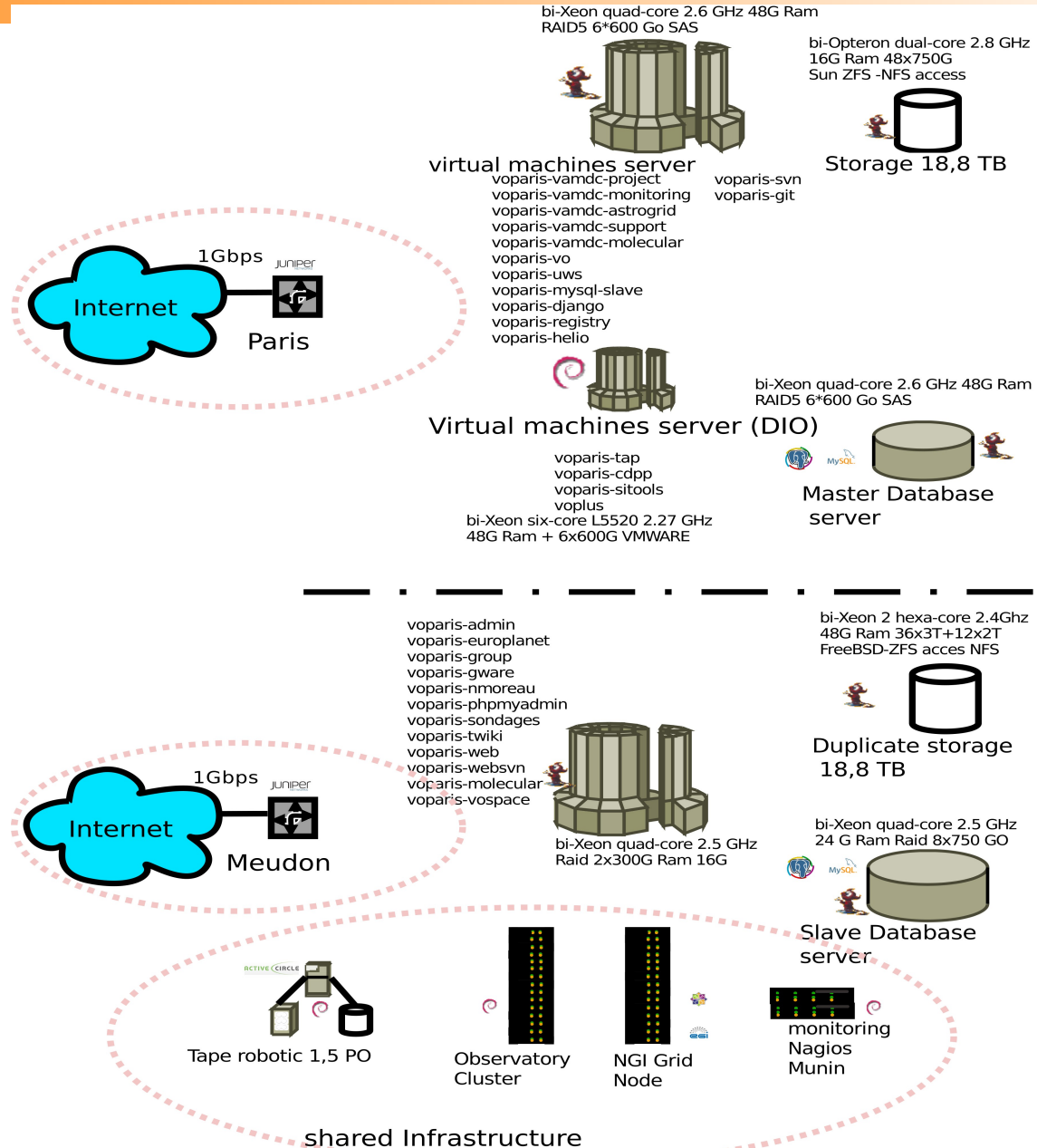
Softs & Protocols

SIA – SSA – CS – PDAP have been developed in perl first,
then PHP. Databases are MySql or PostgreSQL
UWS is developed in PHP that talks to Torque/Maui Scheduler

For TAP a first simple version has been done in PHP, then
DaCHs was used : <http://voparis-tap.obspm.fr/>

The Registry framework is written in Python using CouchDB and
ElasticSearch

Infrastructure





PUE 1.35
Power Usage Effectiveness

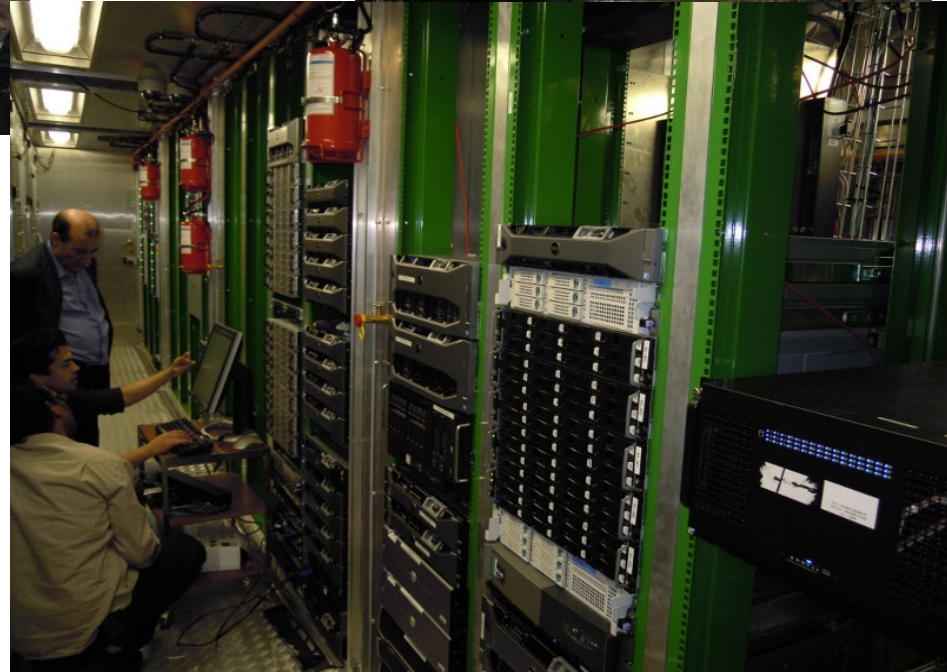
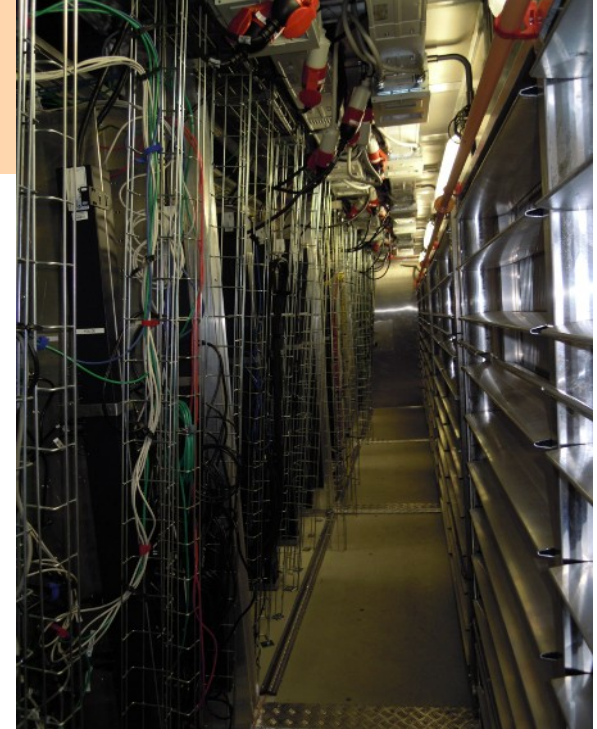


PUE 1.1



PUE 2?

Container



Total free cooling
PUE 1.1

Preservation : for what time scale & what future uses

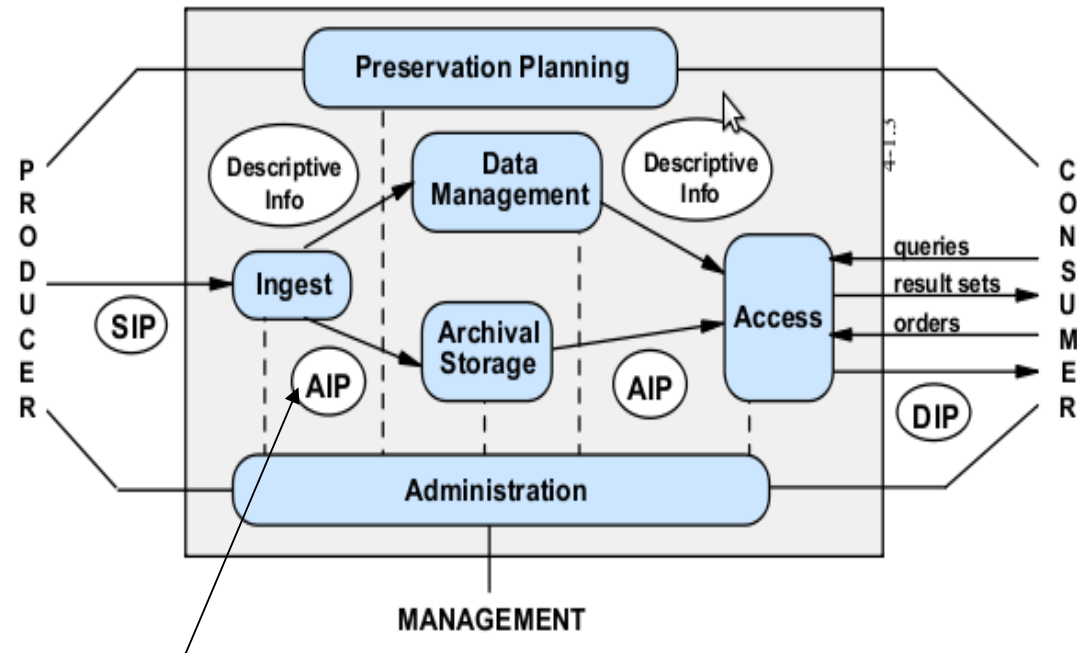
Creation of the Paris Observatory (1667), engraving by Thibault, from a painting by Charles Lebrun. Colbert presents the members of the Science Academy to the King.



The structure is the oldest active Observatory (since 1667) with a short interruption during French Revolution in 1789

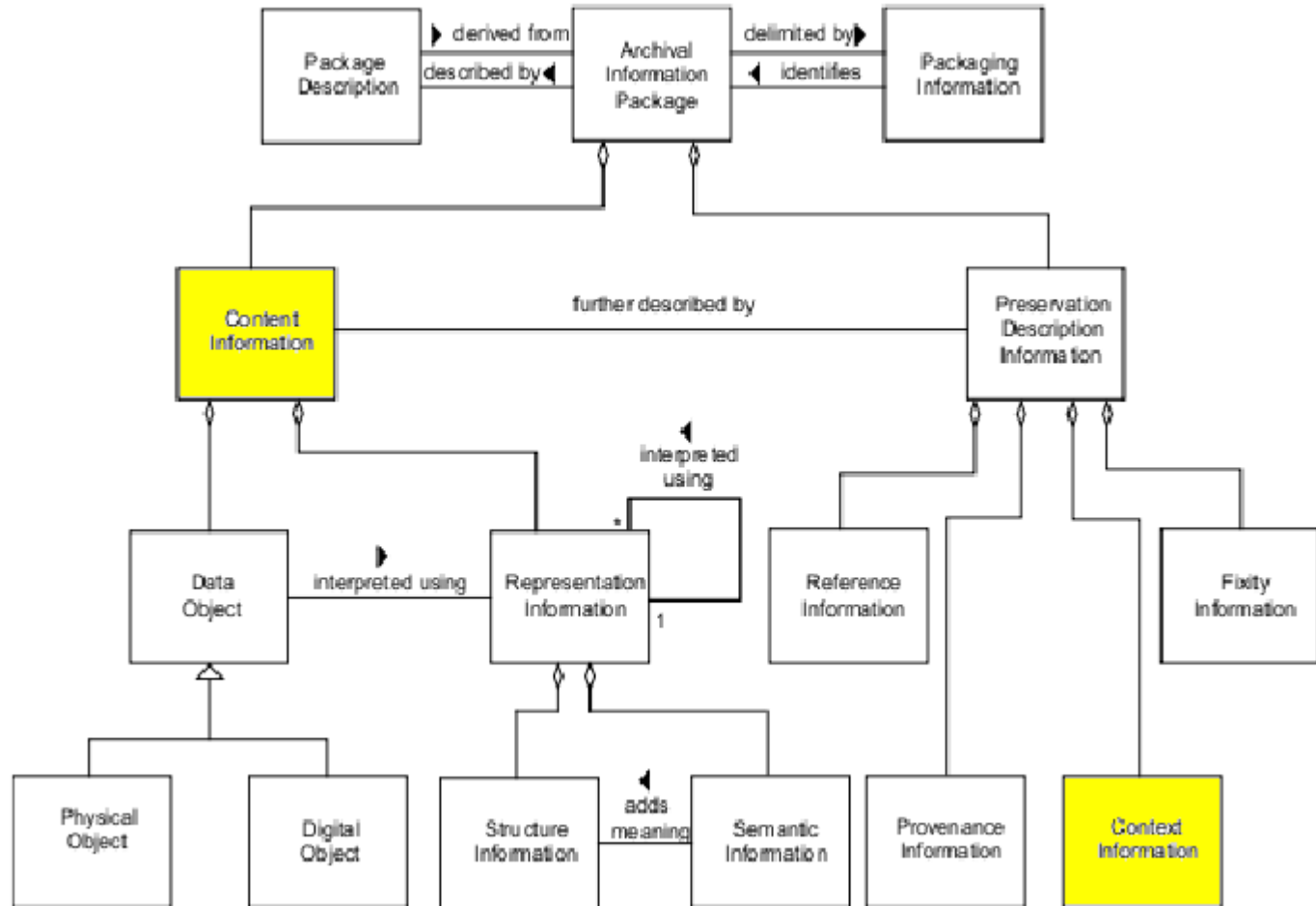


□ OAIS standard for data archive (ISO)



Archive information package
 Data + relative

Data preservation



Data preservation

Reference information

The information that identifies, and if necessary describes one or more mechanisms used to provide assigned identifiers for the Content Information. It also provides identifiers that allow outside systems to refer, unambiguously, to a particular Content Information. An example of Reference Information is an ISBN.

Do ivo identifiers correspond to this ?

Ex: ivo://data_provider/service#IDnumber

Provenance Information.

The information that documents the history of the Content Information. This information tells the origin or source of the Content Information, any changes that may have taken place since it was originated, and who has had custody of it since it was originated. Examples of Provenance Information are the principal investigator who recorded the data, and the information concerning its storage, handling, and migration

Data preservation

Context Information

The information that documents the relationships of the Content Information to its environment. This includes why the Content Information was created and how it relates to other Content Information objects.

Within the VO, it was mainly presented as “provenance data model”

Fixity Information.

The information which documents the authentication mechanisms and provides authentication keys to ensure that the Content Information object has not been altered in an undocumented manner. An example is a Cyclical Redundancy Check (CRC) code for a file.

Use classical md5 sum?

Data preservation

Structure information + Semantic information

=> This outscopes the VO because the VO deals with exchange formats, not archive native formats.

Package description : partly used by DAL

Data preservation

How to standardize information for an Image Atlas


Define an XML schema with all related metadata for ESO-R, SRC-J POSS-E

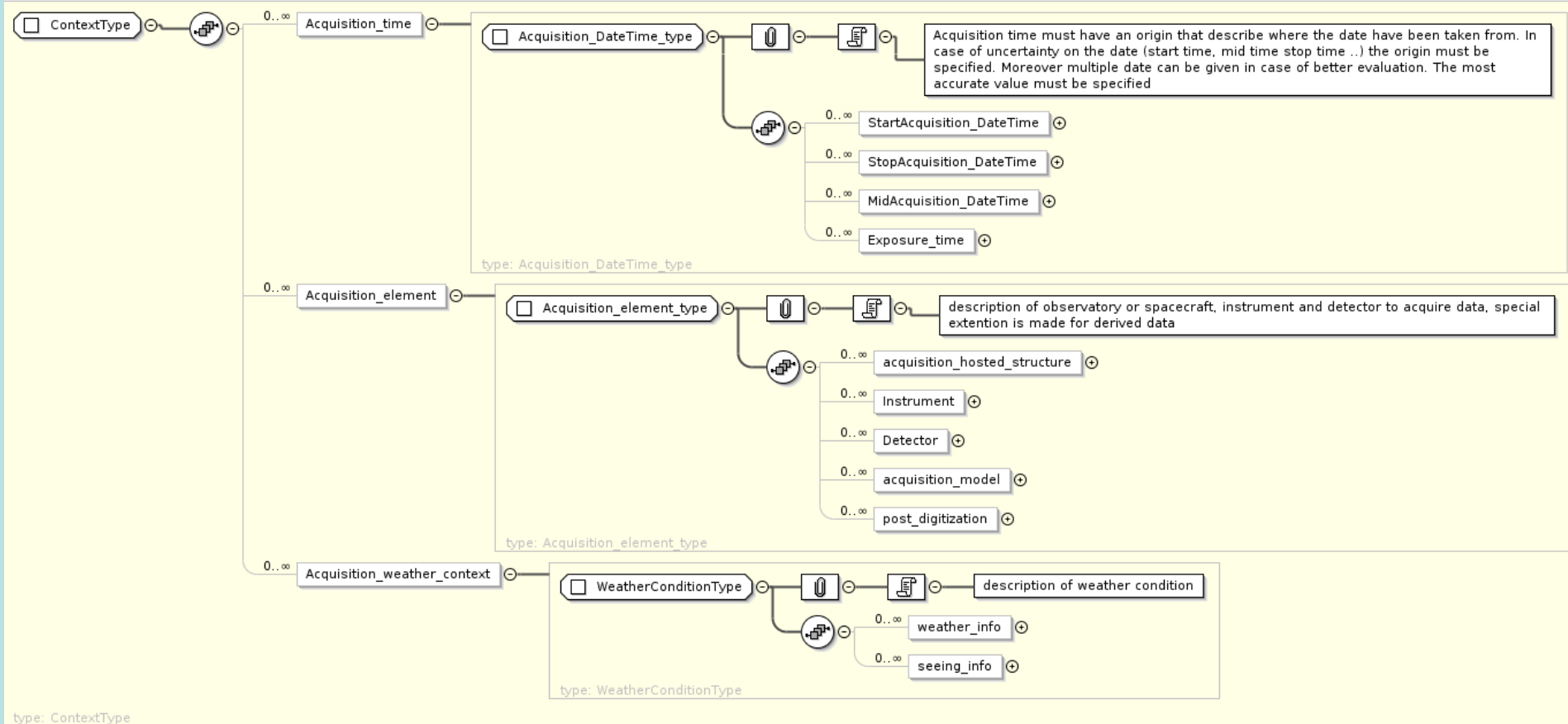
All digitized at MAMA (Gepi)

First draft model at <http://voplus.obspm.fr/xml/>

OAIS Standard

Data preservation


 define the context of data, schema to be extended for the need of preservation Context schema, designed in OAIS model to define context of data coming mainly from observation



Data centre Conclusion

- ❑ **Performing backups is necessary and discussions are still active on open backup systems :**

Tape / Disk

But digital preservation is one layer over systems technology and it's evolution. We must have in mind that future users should have access to full information for future uses of data.

- ❑ **The VO handles the problem of data distribution standards concerning both access and format.**

More and more data types are now handled by the VO(s). Communities are active (Solar, Planetology, Atomic & Molecular physics, Plasma physics).

Registry consistency

- ❑ **There have been some cleaning in registry content**
- ❑ **Next time stat will be done using voparis registry when interface will be final one**