

SA 2: Support to the Infrastructure

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**Objectives :**

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SA2 provides support for the delivery of the VAMDC e-infrastructure to users and producers (SA1). SA2 will be responsible for the maintenance and monitoring of the core infrastructure;

Implementing Grid technology within the VAMDC: providing direct support to the users of the scientific data infrastructure as they enter the VAMDC portal and for the preservation and storage of digital data

**WP Lead: CNRS(1)**

**Description of work :**

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***Task1: Maintenance and monitoring of the core infrastructure (CNRS(1), all SA2 partners)***

The core infrastructure will include partners who maintain existing databases and services. All the actors will be in charge of providing access to the databases/services deployed in SA1. The services include accessing the databases via different protocols, access to dictionaries and publishing registries. Task1 involves setting up the quality assurance of the infrastructure activities, service heartbeats and development and use of unit test packages. The monitoring activities will be implemented at VO-Paris Data Centre using the NAGIOS software. We will need to develop plugins specific to the various protocols which will need validation. Monitoring Software implemented at VOPARIS Data Centre will be distributed to regional centres.

***Task 2: Grid Operations (CNRS(1))***

The infrastructure includes the possibility to use the GRID technology in order to run numerical codes that produce AM data or that use AM data on hardware provided outside VAMDC. This is separate from and complementary to the execution of codes on hardware provided at VAMDC nodes (the latter facility is part of SA1). Task 2 will make selected codes usable on the grid. The work involves:

- making the codes executable on grid nodes, either by making the codes themselves portable or by packaging them in virtual machines;
- providing grid portals where the codes can be invoked and from which the results can be retrieved;
- negotiating access for VAMDC users with grid providers, especially with EGEE

### ***Task 3: Support to "users" of the infrastructure (UCL(3) with partners (2), (12), (15))***

"Users" of the infrastructure, meaning all people interacting with the infrastructure, will need to have access to information concerning the composition of the infrastructure, the services which are available, the procedures about how to enter the infrastructure, the procedures about how to implement the standards, how to use or adapt the various tools. The support to the "users" will be operated in Task 3 through the provision of on-line support materials, a help desk and a service providers/users forum where people could share best operation practice. We intend to produce a self-studying e-tutorial that can be incorporated in university courses on molecular and atomic physics, astronomy, energy systems, environment (etc). Also we intend to operate an e-tool for general public to take a virtual guided tour of VAMDC: statistics, content, geography of clients and producers, databases locations. Dissemination and Tutorials organized in WP3 will show and teach how to implement and use the infrastructure, will advertise all those tools. Note that the actual generation of the training materials and support events will be organised by WP3 (NA2).

### ***Task 4: Preservation of digital data and resources (CNRS(1))***

The Preservation of digital data and resources is one of the key aspect of sustainability. It is the purpose of SA3 to set up a system of preservation through archiving and mirroring. Some nodes will act as repositories: the nodes already supporting such preservation (nodes linked to VALD, CHIANTI, etc.. ), VOPARIS Data Centre which will act for most of CNRS resources and could be extended to other partners. The first proposed technology will be to create a virtual machine for a certain number of projects who will implement their resources and we will implement synchronisation. This first step of a mirroring site is the simplest approach and will be implemented during the whole project. During Phase 1 we will work at the EPT level in order to follow preservation activities in other areas. We will adjust our preservation policy accordingly in Phase 2.

### ***Task 5: Quality Assurance of data and resources (CMSUC(2), with partners 3, 11, 12, 15)***

Another crucial point is the reliability of the data transferred via the various protocols. The database providers are responsible for the entries in their own database. The usual and slow way of accessing data via classical web interface or via ftp obliges the user to understand the structure of the database, to read instructions in order to get the meaning, definition of columns and lines. An interoperable e-infrastructure will remove some of this verification process of the user. Therefore it is indispensable to check that all resources (core and new ones) use the protocols, standards in the best and reliable way. In Task 5 small groups of VAMDC people understanding the protocols/standards and the physics of the retrieved data will test the output of databases in order to check the good use of protocols, whenever there is a new release handling new cases.

Deliverables : [SA 2: Support to the Infrastructure](#)

Milestones : [WP5](#)