



VAMDC

Virtual Atomic and Molecular Data Centre

**D5.1**

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**Service Support Plan**

Version 0.2

Grant agreement no: 239108

Combination of Collaborative Projects & Coordination and Support Actions



### **Project Information**

Project acronym: VAMDC  
 Project full title: Virtual Atomic and Molecular Data Centre  
 Grant agreement no.: 239108  
 Funding scheme: Combination of Collaborative Projects & Coordination and Support Actions  
 Project start date: 01/07/2009  
 Project duration: 42 months  
 Call topic: INFRA-2008-1.2.2 Scientific Data Infrastructure  
 Project web sites: <http://www.vamdc.eu>

<http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/WebHome>

### **Consortium:**

<b>Beneficiary Number *</b>	<b>Beneficiary name</b>	<b>Beneficiary short name</b>	<b>Country</b>	<b>Date enter project**</b>	<b>Date exit project**</b>
1(coordinator)	Centre National de la Recherche Scientifique	CNRS	France	Month 1	Month 42
2	The Chancellor, Masters and Scholars of the University of Cambridge	CMSUC	UK	Month 1	Month 42
3	University College London	UCL	UK	Month 1	Month 42
4	Open University	OU	UK	Month 1	Month 42
5	Universitaet Wien	UNIVIE	Austria	Month 1	Month 42
6	Uppsala Universitet	UU	Sweden	Month 1	Month 42
7	Universitaet zu Koeln	KOLN	Germany	Month 1	Month 42
8	Istituto Nazionale di Astrofisica	INAF	Italy	Month 1	Month 42
9	Queen's University Belfast	QUB	UK	Month 1	Month 42
10	Astronomska opservatorija	AOB	Serbia	Month 1	Month 42
11	Institute for Spectroscopy RAS	ISРАН	Russian Federation	Month 1	Month 42
12	Russian Federal Nuclear Centre All-Russian Institute of Technical Physics	RFNC-VNIITF	Russian Federation	Month 1	Month 42
13	Institute of Atmospheric Optics	IAO	Russian Federation	Month 1	Month 42
14	Corporacion Parque Tecnologico de Merida	IVIC	Venezuela	Month 1	Month 42
15	Institute of Astronomy of the Russian Academy of Sciences	INASAN	Russian Federation	Month 1	Month 42

This project is supported by funding from the xxxxx Programme under the 7th Research Framework Programme of the European Union

## **Document**

Deliverable number: D5.1  
Deliverable title: Service Support Plan  
Due date of deliverable: September 2009  
Actual submission date:  
Authors: P. Le Sidaner, M.L. Dubernet  
Work Package no.: WP5-SA2  
Work Package title: Support to the Infrastructure  
Work Package leader: CNRS  
Lead beneficiary: CNRS  
Dissemination level: PU  
Nature: Report  
No of pages (incl. cover):

Abstract	The objective of D5.1 is to describe VAMDC Service Support Plan on PM3. This plan corresponds to Activities in WP5: SA2 “Support to the Infrastructure”. This plan is included in the VAMDC Project Plan.
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## Versioning and Contribution history

Version	Date	Reason for modification	Modified by
V0.1	21/10/2009	WP5 Draft – no plan for period 1 – names to be completed	M.L. Dubernet
V0.2	22/02/2010	Completed with elements given by P. Le Sidaner	M.L. Dubernet

Final Version (v0.2) released by		Circulated to	
Name	Date	Recipient	Date
M.L. Dubernet	04/03/2010	Mrs Asero	04/03/2010

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## WP5 ACTIVITIES DESCRIPTION

<b>Work package number</b>	5		<b>Start date or starting event:</b>					3		
<b>Work package title</b>	SA 2: Support to the Infrastructure									
<b>Activity Type</b>	OTHER									
<b>Participant id</b>	1	2	3	8	11	12	13	15		
<b>Person-months per beneficiary: (Total = EU + Node Contributions)</b>	54	36	24	3	18	5	6	11		

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### 1. WP5 Objectives

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.

WP5 Leader is CNRS(1)

### 2. WP5 Milestones and Deliverables

#### Milestones

M5.1	Deployment of Monitoring	WP5	CNRS	Months 10, 22, 34, 42	
M5.2	Deployment of Help Desk	WP5	CNRS	Months 10, 22, 34, 42	
M5.3	Deployment of Grid Operation	WP5	CNRS	Months 10, 22, 34, 42	Testing by Users Panels of prototype software
M5.4	Deployment of Preservation and QA	WP5	CNRS	Months 10, 22, 34, 42	Text of Call Available on Public Website

#### Deliverables

- |  |
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| <p><b><i>D5.1 Service Support Plan (PM 3)</i></b></p> <p><b><i>D5.2 Infrastructure Support Report to be included in report to the EU– Year 1 (PM 10)</i></b></p> <p><b><i>D5.3 Infrastructure Support Report to be included in report to the EU – Year 2 (PM 22)</i></b></p> <p><b><i>D5.4 Infrastructure Support Report to be included in report to the EU – Year 3 (PM 34)</i></b></p> |
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**D5.5 Final Report of Service Support to be included in final report to the commission (PM41)**

**Annual Service Support Plan revisions included in Revised Annual VAMDC Project Plans – Year 1,2,3**

### 3. WP5 Tasks Description

WP5 Leader	P. Le Sidaner / K. Benson CNRS:UMS / UCL :MSSL	
Task Number	Leader	Other Partners
1	A. Shih (CNRS:UMS)	All
2	L.A. Molina (CNRS:LUTH, LPMAA)	All
3	Not yet decided as it starts on M12	
4	P. Le Sidaner (CNRS: UMS)	All
5	Not yet decided as it starts on M12	

**Description of work** (possibly broken down into tasks)

**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 useable 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.

## **4. WP5 Tasks Description for Period 1**

**Task 1: Maintenance and monitoring of the core infrastructure**

- 1.1 Install of Nagios (M6)
- 1.2 The list of machines and services to monitor as well as contacts will be defined by the first 9 months and will be updated over time. Using existing plug-ins or defining new.
- 1.3 New plug-ins will depend on the protocol defined inside VAMDC
- 1.4 Installation and maintenance of the monitoring process for machines and services

**Task 2: Grid Operations**

- 2.1 Making an inventory of codes where grid launch should be useful : this task has to be started by the first 7 months (codes producing A&M data or application codes using A&M data) - Provide List of codes
- 2.2 Gridify codes if necessary and test codes in EGEE grid - Use 2 codes and Record Pbs, edit documentation - Starting Month 7

- 2.3 Find the most useful portal for launching and monitoring these codes on the Grid- Provide Documentation- Starting Months 7

**Task 3:** Support to "users" of the infrastructure – Starts only on Month 12 (Cycle 2)

**Task 4:** Preservation of digital data and resources

- 4.1 After first inventory of services, some more point will be defined by contacting contact persons for services at each node res:
  - What technologies to be used (OS, BDD, language required, total volume ...)
  - Who will be the technical contact to give access to for replication of service
  - Who will be the scientific contact who will validate mirror
- 4.2 This jobs will be start just after inventory (and only for few sites):
  - Virtual machine installation (M11)
  - Negotiation on each service (M11)
  - Installation of services and replication process for chosen sites (M11)

**Task 5:** Quality Assurance of data and resources - Starts only on Month 12 (Cycle 2)