VAMDC

Virtual Atomic and Molecular Data Centre

D2.2

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Science/Technical Report 1

Version 0.3

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
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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:

Beneficiary Number *	Beneficiary name	Beneficiary short name	Country	Date enter project**	Date exit project**
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	ISRAN	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	CTPM	Venezuela	Month 1	Month 42
15	Institute of Astronomy of the Russian Academy of Sciences	INASAN	Russian Federation	Month 1	Month 42

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Abstract	The objective of D2.2 is to describe VAMDC Science/Technical Report for Cycle 1. This report corresponds to Activities in WP2: NA1 "Scientific/Technical Coordination of the network". This report will be included in the VAMDC Periodic Report for Cycle 1.

Versioning and Contribution history

Version	Date	Reason for modification	Modified by
V0.1	19/07/2010	Draft of Section 5	N. Walton
V0.2	16/07/2010	Draft of D2.2	M.L. Dubernet
V0.3	17/07/2010	Minor changes in Tasks 1 and 2	N. Walton, M.L. Dubernet

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Name	Date	Recipient	Date
M.L. Dubernet	8 September 2010	Mrs Asero	8 September 2010

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WP2 ACTIVITIES DESCRIPTION

Work package number	2			Start date or starting event:			1		
Work package title	NA1: Science/Technical Coordination of the network								
Activity Type	COORD								
Participant id	1	2	3	4	6	7	9	14	15
Person-months per beneficiary: (Total = EU + Node Contributions)	12	9	9	2	6	6	6	6	6

Table of Content

1. WP2 Objectives

NA1 provides the scientific and technical work necessary for the operation of the VAMDC e-infrastructure developing its structures and integrating with other data services and placing the VAMDC in a more global context. NA1 will also provide effort for VAMDC to participate and interact with external infrastructure and standards groups such as EGEE, Euro-VO and the IVOA.

The organisation of WP2/NA1, and the technical coordination of the network, is overseen by the VAMDC Executive Project Team (EPT)

The EPT includes WPs leaders (WP2 to WP8). The EPT will have monthly teleconference meetings as well as bi-annual face-to-face meetings. It will collect reports from the SAs and JRAs and prepare the annual technical reports for the VPB. The EPT will be chaired by the VAMDC Deputy (Technical) Coordinator who is a member of the VAMDC Project Board and will advise the VPB on the technical validity and relevance of the project strategic plans.

WP2 leader is CMSUC (2), with co-leadership by CNRS(1)

2. WP2 Milestones and Deliverables

Milestones

M2.1	Approval of WP Plan	WP2	CMSUC/CNRS	Month 3	
M2.2	EPT meetings	WP2	CMSUC/CNRS	Months 3, 10, 16, 22, 28, 34, 38, 42	
M2.3	Approval of Revised WP WorkPlan	WP2	CMSUC/CNRS	Months 10, 22, 34	
M2.4	Approval of Final WP Reports	WP2	CMSUC/CNRS	Month 42	

Deliverables

D2.1 Science / Technical (S/T) Plan (PM 3)

Annual reports will provide publicly available summaries of the activity of the EPT for each project year.

D2.2 S/T Report to be included in report to EU– Year 1 (PM 10)
D2.3 S/T Report to be included in report to EU– Year 2 (PM 22)
D2.4 S/T Report to be included in report to EU – Year 3 (PM 34)
D2.5 Final S/T Report to be included in final report to the EU (PM41)
Annual S/T Plan revisions included in Revised Annual VAMDC Project Plans – Year 1,2,3

Internal deliverables for year 1 activities are listed below.

3. WP2 Tasks Description

WP2 Leader	N. Walton (CMSUC(2)), J. Bureau (CNRS/LPMAA)	
Task Number	Leader	Other Partners
1	N. Walton (CMSUC)	All others
2	N. Walton (CMSUC)	All others
3	T. Ryabchikova (INASAN)	All others
4	E. Roueff (CNRS/LUTH)	All others
5	E. Roueff (CNRS/LUTH)	All others

Task 1: Internal Technical Activities (lead by CMSUC(2), all partners)
Task 1 deals with cross disciplinary technical coordination, identification and evaluation of proposed generic tools, preparation of plans for testing and benchmarking activities. This task also includes the organisation of the EPT meetings.

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__Task 2: Connection to External Technical Project (lead by CMSUC(2), partners 1,3,4,14)__
Task 2 deals with coordination with IVOA (International Virtual Observatory Alliance),
Euro-VO, the IDIS Data service of the Europlanet EU Research Infrastructure, EGEE
(European Grid E-science Environment). The EPT will host annual small focussed
meetings/workshops where relevant people from the external projects will be invited to
present the status of their achievements. The EPT will assess the degree of interoperability
with those projects, which will in turn influence the output of task 1.

__Task 3: Collect the users and producers specifications (lead by INASAN(15), all partners)__
The EPT will gather users/producers requirements by a number of techniques such as
questionaires, small face-to-face meetings and so forth.

__Task 4: Policies concerning Standards (lead by CNRS(1), all partners)__
Task 4 will define, review and update the way standards will be adopted and to that effect it
will interact with organisations promoting standards, e.g. external projects cited in task 2,
NIST project for defining units in XML schema. Other organisations will be identified during
the project if they happen to be relevant to VAMDC.

__Task 5: Policies concerning publication in VAMDC (lead by CNRS(1), all partners)__
Other missions of the EPT are to define, update and maintain the policies concerning the
publication of resources in VAMDC.

4. WP2 Tasks Description for Period 1

Full task activities are detailed at the VAMDC wiki on the WP2/NA1 pages – see
http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/WP2
Task 1: Internal Technical Management
- The EPT meetings occur once every two months, with the kickoff EPT-0 meeting 7
  Oct 2009 (see http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/EptTeleOct2009
). All EPT meetings are fully minuted at http://voparis-
  twiki.obspm.fr/twiki/bin/view/VAMDC/Na1Ept
- NA1 will organise representation at partner VAMDC related meetings
  - High-Russ 2009 Conference, Lake Baikal, July 2009
  - Conferencia Latinoamericana de Computación de Alto Rendimiento: CLCAR-
    2009: Merida, Venezuela, Sep 2009
- In coordination with SA1, a census of all VAMDC resources will be undertaken (M4)
- A VAMDC standard tool set will be determined and introduced (M6)
- The quality assurance systems for VAMDC will be defined (M9) and introduced at the
  second project meeting.

Task 2: External Coordination.
Project representatives will coordinate with relevant external partners, directly and through
EC organised events:
- 7th Concertation meeting on e-Infrastructure (FP7 funded test beds) in Brussels
  (Belgium) (12-13 Oct 2009) – see http://www.beliefproject.org/events/7th-e-
  infrastructure-concertation-meeting

- Attendance at the IVOA InterOp meetings
  - Autumn 2009 – Nov 2009 @ ESO, Garching, Germany
  - Spring 2010 – May 2010 @ CADC, Victoria, Canada
- Attendance at Euro-VO Technology Forum meetings
  - see http://cds.u-strasbg.fr/twikiAIDA/bin/view/EuroVOAIDA/AIDASchedule
- Attendance at relevant EuroPlanet IDIS technical meetings.
  - See http://www.europlanet-ri.eu/idis
- Attendance at relevant EGEE and EGI technical meetings
- VAMDC external technical workshops – two will be organised in the first year
  - Data Access (M6)
  - Applications and run time environments (M9)

Task 3: User / Producer specifications
- The main activity will be in organising a census of user specifications
  - Initial requirements gathering at Kick-Off meeting – Paris Oct 26-27 2009
  - Census of requirements (M6)
  - Report of requirements for inclusion in year one technical plan (M9)

Task 4: Standards Policies
- Development of standards policy
  - Initial discussion at Annual meeting April 2010
  - Release of preliminary standards policy to VAMDC website (M11)

Task 5: Publications Policies
- Development of publication policy
  - Initial discussion at Annual meeting April 2010
  - Release of preliminary publication policy to VAMDC website (M11)

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5. WP2 Tasks Reports for Period 1

Period: 01/07/2009 – 30/06/2010
WorkPackage: 2: NA1: Science/Technical Coordination of the network
WorkPackage Leader and co-Leader: Nicholas Walton, Marie-Lise Dubernet
Participants in the WorkPackage: CNRS (1), CMSUC (2), UCL (3), OU (4), UU (6), KOLN (7), QUB (9), CPTM (14), INASAN (15)

Part 1

A summary of progress towards objectives and details for each tasks

NA1 provides the scientific and technical work necessary for the operation of the VAMDC e-infrastructure developing its structures and integrating with other data services and placing the
VAMDC in a more global context. NA1 will also provide effort for VAMDC to participate and interact with external infrastructure and standards groups such as EGEE, Euro-VO and the IVOA

The **Executive Project Team (EPT)** is responsible for technical activities. The EPT includes WPs leaders (WP2 to WP8) – with the full membership given at
http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/Na1Ept

The EPT has had monthly or every other month face to face or teleconference meetings – namely EPT 0 (7 Oct 2009), EPT 1 (26 Oct 2009), EPT 2 (3 Dec 2009), EPT 3 (23 Feb 2010), EPT 4 (30 Mar 2010), EPT 5 (26 May 2010), EPT 6 (9 Jul 2010) – with minutes of each meeting available from http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/Na1Ept

The agenda at each meeting allows for reviews of activities across each WP, notes actions against plan, and records decisions on activities for the upcoming period.

During the course of the first year there have been no significant deviations from the originally planned activities in WP2. The detailed NA1 plan is available at:
 http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/CycleOneWp2

Task 1: Internal Technical Activities: (lead by (1))

This activity deals with the cross disciplinary technical coordination, identification and evaluation of proposed generic tools, preparation of plans for testing and benchmarking activities.

The main activity in Year 1 has been in setting up the technical coordination of the project, in particular the EPT, and the definition of the Year 1 programme of work. Planning for testing and benchmarking is now underway to support the role out of the Level 1 service with details available at http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/VamdcServiceLevelOne

In parallel to the user requirements survey (see below under Task 3) a census of all VAMDC resources available was carried out (see http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/DeploymentResourceCensus) which included a statement on how these resources are currently made available and used. This enables the baseline to be determined, thus gives a metric against which the VAMDC usage patterns can be compared for any individual resource accessed through its legacy interface.

VAMDC representation was organised at a range of external meetings including
- High-Russ 2009 Conference, Lake Baikal, July 2009 :
  http://symp.iao.ru/en/hrms/16/i1/

- Conferencia Latinoamericana de Computación de Alto Rendimiento: CLCAR-2009: Merida, Venezuela, Sep 2009. Website:
  http://eventos.saber.ula.ve/eventos/conferenceDisplay.py?confId=56

Papers for both events at :
http://www.vamdc.eu/index.php?option=com_jombib&Itemid=27

The Quality Assurance processes will be developed in year 2 of the project, with the current QA process for VAMDC being bases on the QA systems of the VAMDC resource providers.

Task 2: Connection to External Technical Project (lead by (2) with (1),(3),(4),(14))

Coordination and interaction has taken place with a range of relevant external partners. The interaction with the International Virtual Observatory Alliance has been through participation in a number of the IVOA working groups and attendance at the twice yearly IVOA InterOp meetings (Nov 2009 at ESO, Munich where Rixon and Benson attended and May 2010 at Victoria, Canada where Benson, Shih and Walton attended). http://www.ivoa.net/

Walton is a member of the IVOA Liaison group, and represents the interests of VAMDC there. Note that the IVOA has a remit to support Astronomy projects, thus VAMDC is not represented at the IVOA Executive level. In the technical working groups, Benson plays an active role in the Registry working group, whilst Rixon is active in the Data Access Layer and Grid and Web services working groups. Shih is active in the Data Modelling working group. IVOA interactions ensure that VAMDC s aware of developments in the standards underpinning the technologies adopted by VAMDC – primarily registry, data access and grid and web services. Additionally the experience from VAMDC in the development of AM specific standards such as XSAMS, is brought to the attention of the IVOA community. In this manner, for instance, a TAP interface will be developed for data presented through the XSAMS interface.

Informal coordination is in place with the Euro-VO AIDA project, where VAMDC members attend the AIDA technology forum meetings. Coordination with the

EuroPlanet is currently managed through WP3, although technical updates as to the emerging developments with the related EuroPlanet IDIS data service have been presented at the VAMDC kickoff meeting.

The first VAMDC/ external technical workshop will be held in the spring of 2011 – demonstrating the VAMDC level one service, and looking ahead to future interoperability.

VAMDC is represented by participation in the Gaia related meeting *Comparative Stellar Spectrum Modelling*, 23 – 24 Aug 2010, Vienna, Austria [[website]] – where the importance and use of atomic data is highlighted in the understanding of the physical processes in cool stellar atmospheres. (Talk by Ulrike Heiter from UU)

Task 3: Collect the users and producers specifications (lead by (15))

A detailed questionnaire survey was issued to the VAMDC consortium, to gather requirements as to the science usage of the VAMDC infrastructure. A full report is available at:
http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/Na1T3

This survey informed the planning for the development of the year 1 service release. A requirement of note was for a web based user portal to be made available to allow discovery and query of VAMDC data resources. This has since ben implemented (as described in WP4) to offer and alternative to the VODesktop based client tool.

Task 4: Policies concerning Standards (lead by (1))
WP2, T4 is defining the VAMDC policy on the implementation of the standard infrastructure and interfaces. Full details can be found at
http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/Na1T4

Agreement has been reached with NIST as to the ownership of the XSMAS schema, whereby NIST will be the responsible body for this standard. The IVOA was also considered, but XSAMS has use outwith astronomy data, thus NIST is more appropriate.

Task 5: Policies concerning publication in VAMDC (lead by (1))

The publication policy for VAMDC has been developed in WP2, T5. This covers the acknowledgement for the use of VAMDC services, principles for referencing VAMDC by referring to the initial refereed paper describing the system.

The initial meeting of the SAB will ratify the VAMDC draft policy on publications (authorship and credits) and the open source license under which all VAMDC developed infrastructure software will be released to the community.

Full details can be found at:
http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/Na1T5

Significant results (Activities and Deliverables)

a) D2.1 Science / Technical (S/T) Plan

This report is available at:
http://voparis-twiki.obspm.fr/twiki/pub/VAMDC/CycleKickOffPlan/WP2-SciTech-Plan.pdf

b) D2.2 S/T Report – this annual report which includes the WP2 activities listed above, and taken together with the reporting for the technical WPs 4,5,6,7,8 forms the year one science/ technical report.

Deviations from the contract (Annex I) and reasons for them (if applicable)

Not applicable

Failures to achieve critical objectives and/or not being on schedule and reasons for them (if applicable)

Not applicable

Proposed corrective actions (if applicable)

Not applicable

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