VAMDC

Virtual Atomic and Molecular Data Centre

D3.11

–

VAMDC Service Prototype

Version 0.1

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:

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

This project is funded under *"Combination of Collaborative Projects and Coordination and Support Actions"* Funding Scheme of The Seventh Framework Program of the European Union

Document

Deliverable number:	D3.11
Deliverable title:	
Due date of deliverable:	December 2012
Actual submission date:	January 2013
Authors:	Guy Rixon and ML Dubernet
Work Package no.:	WP3
Work Package title:	Dissemination and training
Work Package leader:	OU
Lead beneficiary:	OU
Dissemination level:	PU
Nature:	Other – and a report is still required
No of pages (incl. cover):	

Abstract	The objective of D3.11 is to describe VAMDC Service Release

Versioning and Contribution history

Version	Date	Reason for modification	Modified by
V0.1	**December 2012**	**Document**	**M.L. Dubernet**
	January 2013	**Wiki ready**	**G. Rixon**
	February 2013	**D3.11 Ready**	**M.L. Dubernet**

Final Version (v0.3) released by		Circulated to	
Name	Date	Recipient	Date
M.L. Dubernet		Mr Bodo	

1 Introduction

The final service-release contains the resources made available at the end of the original VAMDC project. The system uses the 12.07 standards and supercedes the level-3 release which was based on the 11.12 standards.

On 31st Dcember 2012, the last day of the VAMDC project, this new version of the system was still under test. Formal release is planned at the start of February 2013, managed by the SUP@VAMDC project. The previous release of the system remains available to end users during this period.

A service release is a combined issue of:

- standards for data access;
- VAMDC nodes, each containing a database and web service following the standards;
- a registry of the services;
- a web portal as UI for the system;
- software to prepare the databases and implement the web services;
- web services to process VAMDC results into other formats and presentations

All releases include user support and training materials. Successive release-levels improve the sophistication and interoperability of the nodes.

2 Standards

VAMDC standards are updated once per year. The current release uses the 2012.07 update of the standards.

The standards specify:

- the data model and format XSAMS, in the variant currently supported by VAMDC;
- the web-service protocol VAMDC-TAP;
- the query language VSS2;
- the VAMDC dictionary of standard terms;
- the method of registering nodes.
- Protocol for XSAMS-consuming services

3 Nodes

Each node contains one database and the web-service giving access to the database. The set of nodes is flexible: new nodes can be added during the lifetime of a system release. The current set of nodes is listed in the web portal.

4 Registry

The registry holds the metadata describing the databases and nodes. It allows the client software, especially the web portal, to find the nodes and to use them appropriately. The registry software provides a web UI used by VAMDC sites to register the nodes and a web service used by the client software to extract metadata. End users do not need to deal directly with the registry.

The registry for the final release is separate from the registries for other releases and the registry used for development of the system. Its contents are not expected to change significantly after release.

The registry is at http://registry.vamdc.eu/registry-12.07/. Its use by data providers and authors of client software is described in the VAMDC standards. Users querying for VAMDC data with a web browser should use the web portal (see below) rather than the direct link to the registry in this paragraph.

Software for querying the registry from an application program is available on GitHub.

5 Web portal

The portal for the release is available to end users at http://portal.vamdc.eu/. See below for usage notes. The source code for the portal is available on GitHub but is not distributed as a VAMDC product.

6 Node and publishing software

VAMDC provides software for creating a node and publishing data therein. Two implementations are available: node software in Python and node software in Java.

The version numbers of the software reflect the version of the VAMDC standards. Hence, v12.07r1 supports the 2012.07 standards and is the first revision of the software in that edition of the system. The documentation for creating a node is on the same pages as the software.

Anybody who wishes to make a new node with this software is strongly advised to contact VAMDC for help.

7 Usage

Scientists may extract data from VAMDC in two ways: using VAMDC's web portal or by downloading “virtual data-sets” in their own software.

Via the web portal

The portal attempts to present VAMDC as a combined database. It forms queries which can be sent to all VAMDC nodes.

From the home page of the portal (see link above), follow the "VAMDC query" link. This page allows one to develop a query iteratively. Initially the page lists the available data-sets and the query terms to which they respond. The menu at the left of the page lists the classes of query terms and leads to forms for adding those terms to the query. The query is the logical "AND" of all the terms; e.g. atomic symbol equal to "Fe" AND wavelength of radiative transitions between 5000 and 5005 Angstrom. Guides for use of the portal are provided (and are also accessible from the portal itself).

Via virtual data-sets

The VAMDC data-access service support "virtual data-sets" in which a URI can be composed for any sub-set of an archive that could be returned as the result of a query. If you can compose the virtual-data URI, you can obtain that virtual data-set in your own program by an HTTP GET. You can also use the virtual-data URIs in a web browser, copying them into the address bar. The virtual-data URIs are semi-permanent (they change only if the service responding to them is relocated), so you can record them and share them with colleagues.

8 Support for users

Help for users is provided on the web (FAQ, user guides) and by email at support@vamdc.eu. The email address may be used for questions on operation, general enquiries about VAMDC or to report problems. Your email will be placed as a ticket to be looked at by the VAMDC support-community and an answer will come back as soon as possible.