

Support to the Infrastructure

WP5 - SA2

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Dependencies & Deliverable

VAMDC	5
Virtual Atomic and Molecular Data Centre	

Dependencies

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Requirement	• Have a description, status and contacts of services in VAMDC : Informations contained in the Registry.
Task 1	 Have a description of the Data Model and Data Access layer of all services : In progress.
Task 2	• key deliverable
Task 3	produce respectively mid-term and final reports one before the end of each one-year Cycle
Task 4	 By the first 12 months : - : dedicated WIKI part and an archived mailing list is opened for WP5 in order to share information and to encourage some a collaborative initiative. - : dedicated Nagios monitoring system is up & running
Task 5	 - : dedicated Naglos monitoring system is up & running - : virtual machines are ready for mirroring - : Grid infrastructure is build; soon 200 cores available - : long time preservation system is tested and work - : help will be given to infrastructure requirement (SVN, maiing list, twiki administration)



Maintenance and monitoring of the core infrastructure



Requirement

Task 1	
Task 2	
Task 3	
Task 4	
Task 5	

Monitoring services (Nagios) up & running

(https://voparis-vamdc-monitoring.obspm.fr/)

- The monitored services will include e-mail alerts in case of failure
- The reports will be accessible to the VAMDC community
- Possible active monitoring (using NRPE). From us to the remote server.
 - Possible passive monitoring (using NSCA). From the remote server to us.

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Maintenance and monitoring of the core infrastructure





Maintenance and monitoring of the core infrastructure

VAMDC Virtual Atomic and Molecular Data Centre

Planning

Requirement
Task 1
Task 2
Task 3
Task 4
Task 5

All services added to the registry will be monitored & all present in « monitoring questionnaire » on the twiki.

http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/ MonitoringQuestionnaire

Dedicated plugins will be developed using Information from Data Access Layer when they are available. Job have already started with TAP protocol.



Grid Operations (with LUTH)

0	Making the codes executable on grid nodes	
VAMDC	 Identification of code candidate 	
Virtual Atomic and Molecular Data Centre	(http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/GridCodesCensus)	
	 Prepare the codes to run on the Grid 	
Doquiromont	(http://voparis-twiki.obspm.fr/twiki/bin/view/VAMDC/HowToRunApplicationsOnGrid)	
Kequitement	- Providing Grid portals where the codes can be invoke	d,
Task 1	monitored and that helps to handle the results	
T. 1. 2	 An environment for the test has been installed on the OBS EGEE Grid node 	SPM
Task 2	 Different options to be evaluated: Genius, Dirac and P-Gra 	ade
Teals 2	- Grid Access to VAMDC users :	
Task 5	Necessity to have grid certificate delivered by your own organism	n
Task 4	For access to grid machine & CPU:	
Task 5	 To be discussed, possible access to t soon coming 200 cores at Paris Observatory. 	the
	Planning	
	Y+1 to install a web portal and tools and prepare online tutori about how to use it. Only manpower. Negotiation can start before	als
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Support to "users" of the infrastructure

VAMDC	Presentation by K. Benson from(UCL/MSSL)
Virtual Atomic and Molecular Data Centre	** Collaboration with WP3 (how to implement and use the infrastructure)
Requirement	* Two distinct paths : End Users and the Deployers.
Task 1	* e-Tool idea to show statistics, geography of users and components.
Task 2	* Alerts or News Feeds could be something to consider sending to email lists.
Task 3	
Task 4	** Discution about the best media to use for Developers, project member, end users :
Task 5	Email list with web archive, Forum, Ticket system, web site, collaborative web site, Social Network



Support to "users" of the infrastructure



Presentation by Benson from(UCL/MSSL) Collaboration with WP3 (how to implement and use the infrastructure)

Requirement	
- 	Planning :
Task I	* FAQ for both Users and Deployers.
Task 2	* Installation Docs - more for the "Deployers" onto web sites.
Task 3	* Step-by-Step Presentations or Tutorials : both simple powerpoint presentations to almost video /audio
Task 4	like presentations.
Task 5	* Wiki - Keep this to a minimum for the public use. Such as "Advanced Tips", "Best Operations", "Workflows", "Backups", etc
	Workshops and Training given to users
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Uptime and mirroring

Reliability and service warranty

- o Multiple independent access
- o Mirror of services and data
- Mirror of services will be hosted by FreeBsd virtual Machine (Jail)
- Instance of Astrogrid running on one jail to make a self consistent system. http://voparis-vamdc-astrogrid.obspm.fr:8080/



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Requirement	
Task 1	

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Task 2

Task 3

Task 4

Task 5

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Uptime and mirroring

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Atomic and Molecular Data Centre	0
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Requirement	
Task 1	_
Task 2	_
Task 3	_
Task 4	_
Task 5	
	Plan

How to manage physicaly service replication?

- Replicate each service/database on a dedicated VM
- Voparis install and define the way to keep up to date data and services:
- Discuss the requirements (php, mysql, apache, postgresql, python, …) for each VM
- Discuss the installation of each service
- Discuss the access way to access and the access level (root access ? SSH and public key?)
- Discuss how to do the mirroring and the frecuency

Planning

Start when services test will be up & running

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Requirement

Task 1

Task 2

Task 4

Task 5

Task 3

Planning

Start when services will be up & running

Uptime and mirroring

How to use service replication for end user • In the registry parameter define service as

- Relationship = mirror-of •
- Related ressource = \dots •
- Multiple access will be held by the software client, only one ressource will be viewed by the end user.
- No complex dynamic dns, dns round-robin, Load balancing or heart beat ...



Preservation of digital data and resources

« Data preservation »

- Use of virtualised distributed storage « active circle ».
 * Multiple instances of data stored in heterogeneous distributed physical storage.
 - * Storage virtualisation will tackle life time storage element.
- Use of tape storage in a public standard format "tar"
- Long history of the institute may be a guaranty for the futur in security and stability of the data.

Planning

Start after service replication Will be add to backup service of VO-Paris.

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.

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Requirement

Task 1

Task	2
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Task 3

Task 4

Task 5



Quality Assurance of data and resources

VAMDC	Presentation by G. Rixon from (CMSUC)	
Virtual Atomic and Molecular Data Centre	Data services	
	- Easy to check conformance of service to standards sample queries	s via
Requirement	 Very hard to check scientific correctness of data; 	
Task 1	- "We are not the data police" - should VAMDC be checking data quality at all?	
Task 2	• <u>Registry</u>	
Task 3	- Easy to check	
Tuble 5	 Test registry service vs. service standard 	
TT 1 4	 Test schema validity of contents 	
lask 4	 Test completeness of content, e.g. whether the descriptions are filled in 	
Task 5	- Much harder to test correctness of entries	
	Code-execution services	
	- Can check correct execution of codes on arids etc.	
	- Need authors of codes to supply test cases.	-
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