

Reorganization of informational environment of Nuclear Chemistry Group

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Introduction

- For computing cluster RAMData to operate successfully an information support is needed which includes the number of functions.
- Users have to be able to get an information about the cluster, report own problems to the cluster administrator, get latest cluster news.
- Cluster administrators should have a possibility to log all hardware and software changes in order for every cluster administrator to be aware of changes made by another administrator and also afterwards to trace changes sequence.

Why to reorganize

- At present RAMData cluster information site [1] is realized on VAX/VMS platform using www pages and discussion forum.
- Now VAX/VMS is not a standard for research in high energy physics. The standard de facto in scientific research is open system architecture.
- Such systems as Linux, Apache with their open source code are considered open systems.
- In addition an administrator must support different platforms which makes his work more complicated.
- These reasons have led to the idea of transition to modern hardware-software platform.

What platform

- It might be suggested 2 variants of hardware platform:
 - cluster file server ram0
 - separate PC
- The second variant requires additional computer but provides more reliability and security.
- Which operating system to choose , UNIX or MS Windows ?
- UNIX has open system architecture and proved to be much more secure and stable against hackers, viruses, worms and is most preferable platform for a server.
- What UNIX to choose ? Now Linux is a good candidate for a server as it is now the standard de facto in scientific research .
- Besides this we need to choose
 - web server software
 - mailing lists software
- It is worth noting that all software is freeware.

WWW servers

- There are many WWW servers of many vendors to choose, for example:
 - MS Internet Information Server
Microsoft [2]
 - Lotus Domino Go Server IBM [3]
 - Netscape Enterprise Server Netscape [4]
 - Oracle Web Application Server Oracle [5]
 - Apache WWW server Apache [6]
Software Foundation

Apache WWW server

- Among them the most popular www server is Apache of Apache Software Foundation. It has all features required of modern www server, specifically:
 - high performance
 - high reliability
 - high security
 - permanently being developed
 - multiplatformed
 - open architecture

and also it's important it is freeware.

RAMData WWW Site Upgrade

- For above reasons Apache www server has been chosen for upgraded RAMData WWW site.
- **<http://ram3.chem.sunysb.edu/ramdata>**
is http address for upgraded RAMData www site.
- To provide security for working over Internet additional security feature Secure Socket Layer (SSL) is added to Apache.
- SSL creates secure connection between a server and a browser over which any amount of data is encrypted and sent securely, for example passwords and any private information.
- **<https://ram3.chem.sunysb.edu/ramdata>**
is https address for upgraded RAMData www site to work in secure mode.
- You can choose either http or https address to work with but the references to the pages requiring of entering password have https address. So you are automatically forced to enter in secure mode.
For example to view pages of mailing archives you need to enter username and password therefore the references to these pages have https addresses.

RAMData WWW Site Upgrade (cont.)

- The current RAMData www site is based on VAX/VMS platform and has http address:
<http://nucwww.chem.sunysb.edu/ramdata/>
- The html pages from current www site have been transferred to the new one and have been customized to Linux+Apache platform.
- Some functions , for example Message Board [7] is obsolete and is realized in a standard way, mailing lists.
- The new pages related with Globus development in RAMData cluster were created by A. Shevel.
- So upgrading RAMData www site facilitates further developing informational infrastructure of RAMData cluster.

Mailing lists systems

- Mailing lists are very convenient way of discussing problems involving many people, supporting feedback with many users.
- There are several widespread mailing lists systems:
 - `LISTSERV` [8]
 - `ListProc` [9]
 - `SmartList` [10]
 - `Majordomo` [11]
 - `MailMan` [12]

Majordomo Mailing List Manager

- It is suggested one of most widespread mailing list manager Majordomo. It gives users the possibilities to subscribe, unsubscribe , get a list of subscribers and other information.
- Majordomo also has the ability to accumulate mail messages in mail archives which then can be browsed by subscribers.
- **majordomo@ram3.chem.sunysb.edu**
is the mail address for Majordomo on ram3.chem.sunysb.edu.
- In order to get the list of Majordomo commands you need to send email to above address with mail body line containing the word help

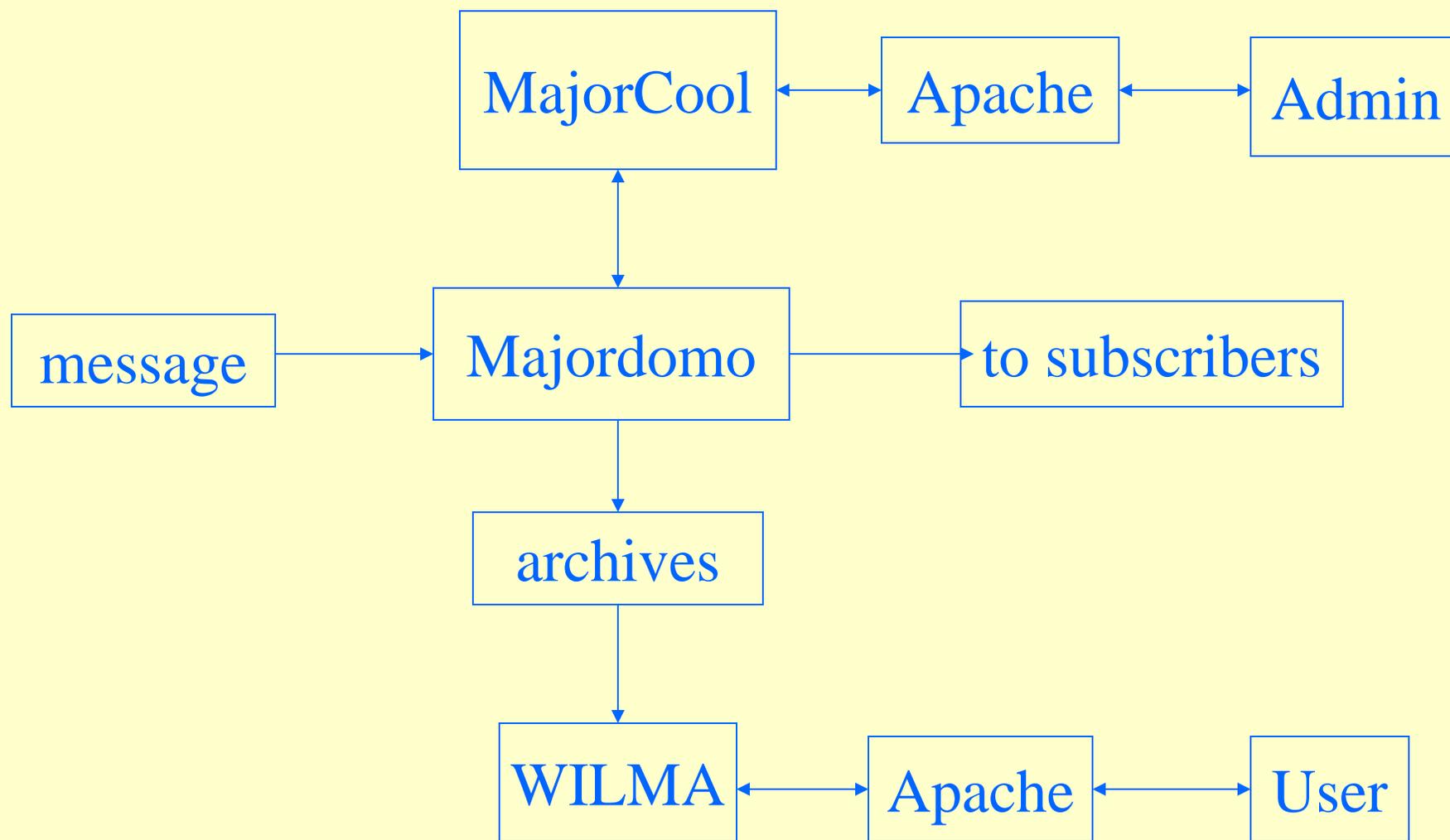
Majordomo Manager (cont.)

- Now there are 2 mailing lists on ram3.chem.sunysb.edu
 - ramdata-news@ram3.chem.sunysb.edu
for ramdata users
 - ramdata-system@ram3.chem.sunysb.edu
for ramdata administrators
- To subscribe ramdata-news list you should send majordomo@ram3.chem.sunysb.edu email, containing in the body a line like this:
`subscribe ramdata-news [your@address]`
- Subscription will be done with the approval of administrator only !
- Be sure your email address which sees majordomo matches address which you are subscribing with.

Web interface to mailing lists

- To facilitate a user to work with mailing lists the web page is created http://ram3.chem.sunysb.edu/ramdata/mailling_lists.shtml
From this page a user can do
 - **subscribe to a mailing list**
 - **unsubscribe a mailing list**
 - **send a message to a mailing list**
 - **browse a list archive**
 - **send a command to majordomo**
- To convert mailing list archive to HTML format it was installed software package Web Interface To List Mail Archives (**WILMA**). **WILMA** [13] enables a user to browse mailing list archive using any browser. It also provides searching mail archives.
- To help an administrator to manage mailing lists the package Web Interface To Majordomo (**MajorCool**) [14] was installed. With **MajorCool** an administrator can create, delete, modify mailing lists.

Majordomo flow chart



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Mailing lists archives

- To view ramdata-news mailing list archives a user should start from the main page of new **RAMData WWW Site**:
<http://ram3.chem.sunysb.edu/ramdata>
- Click on Mailing Lists in Menu, then click on View in column Archive. An user will be prompted to accept or not accept Security Certificate. You should answer Yes. Then a user will be prompted to enter User Name and Password.
- For ramdata-news list, User Name is **newslis**t, Password is communicated to a users by administrator after subscribing.
- For ramdata-system list, User Name is **systemlis**t.

Nuclear Chemistry WWW Site Upgrade

- Current Nuclear Chemistry WWW Site is hosted on VAX /VMS platform and is also needed upgrading to new platform. It has http address:

<http://nucwww.chem.sunysb.edu>

- For now html pages of this site have been moved to ram3.chem.sunysb.edu and upgraded nuclear chemistry www site has http address:

<http://ram3.chem.sunysb.edu>

- And its https address for working in secure mode is:

<https://ram3.chem.sunysb.edu>

- HTML pages customizing is now in progress but is not completed yet.
- As there are differences in file naming of VMS and UNIX so possibly that some VMS help and VMS Bookreader pages would not be customized exactly.

References

- [1] Current RAMData WWW Site
<http://nucwww.chem.sunysb.edu/ramdata/>
- [2] Microsoft Internet Information Server
<http://www.microsoft.com/iis>
- [3] Lotus Domino Go Webserver
<http://www.ibm.com>
- [4] Netscape Enterprise server
<http://home.netscape.com>
- [5] Oracle Web Application Server
<http://www.oracle.com/products>
- [6] WWW Server Apache
<http://www.apache.org>
- [7] WWWBoard discussion forum and message board
<http://worldwidemart.com/scripts/wwwboard.shtml>

References (cont.)

- [8] LISTSERV Mailing List
<http://www.lsoft.com/product/>
- [9] ListProc Mailing List
<http://www.listproc.net/>
- [10] SmartList Mailing List
<http://www.procmail.org/>
- [11] Majordomo Mailing List
<http://www.greatcircle.com/majordomo/>
- [12] MailMan Mailing List
<http://www.gnu.org/software/mailman>
- [13] Web Interface to List Mail Archive (WILMA)
<ftp://ftp.ccsf.cc.ca.us/majordomo-contrib/>
- [14] Majordomo Mailing List WWW Gateway (MajorCool)
<http://www.conveyanced.com/MajorCool/>