

SciDAC Collaboration Tool Survey

By design, SciDAC projects are collaborative, involving widely distributed teams of researchers. Hence, use of software tools and services within the SciDAC community to support collaboration and access to shared resources can be an important component of the program. Such capabilities can also enable information sharing and technology exchange across projects.

This survey is designed to:

- *To facilitate communication among all the groups in SciDAC.*
- *To help understand and detail requirements for the SciDAC collaborative software environment by gathering some basic information about the collaborative tool requirements of your project.*

Your answers will be used to develop plans and guide the research direction of the National Collaboratory and High Performance Networking projects. This is the first of many steps that must be taken to meet the SciDAC goal of creating a Collaboratory Software Environment to enable geographically separated scientists to effectively work together as a team and to facilitate remote access to both facilities and data.

Feel free to answer "I don't know" or "not applicable", or to provide other key information that you think may be helpful. Partial answers are more helpful than no answers at all.

Results of the survey will be available at the SciDAC PI meeting in September and important implications will be discussed at that time.

The survey should be completed for each SciDAC project (one survey per project) and returned electronically to scott@er.doe.gov or by fax to Mary Anne Scott, SC-31 at (301) 903-7774 before September 1, 2001 to allow time to collate and analyze the results prior to the SciDAC PI meeting.

Questions regarding the survey can be directed to Ray Bair (raybair@pnl.gov (509)376-7939), Mary Anne Scott (scott@er.doe.gov or (301) 903-6368) or Thomas Ndousse (for networking tdousse@er.doe.gov (301) 903-9960)

Project Name: Particle Physics Data Grid Collaboratory Pilot

Responding Contact: Ruth Pordes, Chair PPDG Steering Committee

1. What are the primary areas of collaboration activity in your project? (Check all that apply.)

- Yes.** Coordinated/shared software development
- Yes.** Community information resource (database) development
- Yes.** Community discussion or collaboration (e.g., for standards development)
- Perhaps.** Collaborative data analysis
- Yes.** Internal project management and coordination (e.g., distributed discussion and decision making)
- Yes.** Inter-project management and coordination
- Yes.** Remote/collaborative experimentation (e.g., instrument use)

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- Yes.** Collaborative problem resolution (network/hardware/software diagnosis)
- Collaborative computation
- Other (describe) International collaboration and application deployment
- Other (describe) Production collaborative computation for participating experiments
- Other (describe) _____

2. How do you anticipate electronic collaboration capabilities will benefit your project? For which activities do you consider collaboration tools critical for the success of your project?

We already make extensive use of video conferencing, VRVS, and its connection to phone conferencing facilities. Video conferencing to the desktop as well as multi-site room based video conferencing is of use.

CVS is used as a code and document sharing repository, as well as independent CVS repositories for the individual experiments and groups. Collaboration tools for use of multiple such repositories, distributed code and documentation repositories would be useful.

3. Are your collaboration activities largely synchronous or asynchronous? Please describe briefly.

Synchronous video conferencing – all people are present when the discussions are occurring.

Asynchronous for code and documentation repositories – cvs and cron jobs.

4. What collaboration tools are in use today in your project? (Check all that apply.) List the names of the products used, e.g., NetMeeting, SDR.

Specific Products Used

- | | |
|---|---|
| <input type="checkbox"/> Video conferencing | _____ VRVS, DCS _____ |
| <input type="checkbox"/> Access Grid: how many nodes? | _____ 2-3 nodes for targeted workshop (Condor etc) |
| <input type="checkbox"/> Other Group-to-group conferencing? | _____ |
| <input type="checkbox"/> Text Chat/MOO | _____ |
| <input type="checkbox"/> Mailing lists and/or mail archives | _____ listserv and mailman gnu.org/software/mailman/mailman.html |
| <input type="checkbox"/> Discussion groups | _____ |
| <input type="checkbox"/> Voting (e.g. Quorum) | _____ |
| <input type="checkbox"/> Shared whiteboards | _____ |
| <input type="checkbox"/> Remote instrument control | _____ |
| <input type="checkbox"/> Remote controlled cameras | _____ |
| <input type="checkbox"/> Shared computer displays and terminals | _____ |
| <input type="checkbox"/> Electronic notebooks | _____ |
| <input type="checkbox"/> 3D Visualization (e.g., CAVE) | _____ |
| <input type="checkbox"/> Source code/version control | _____ CVS and CVS repository browser for code,documentation and web pages |
| <input type="checkbox"/> Shared document repositories | _____ CVS repository |

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- Shared authentication certificate server Plan to work with the DOE Science Grid to use their certificate authority
- Shared directory server _____
(for resource discovery or other purposes)
- Other (describe) _____
- Other (describe) _____
- Other (describe) _____

5. What collaboration tools would you use in your project if they were available? (Check all that apply.)

- a) Video conferencing **Yes**
- b) Access Grid **Yes**
- c) Other Group-to-group conferencing? **Yes**
- d) Text Chat/MOO
- e) Mailing lists and/or mail archives **Yes**
- f) Discussion groups **Yes**
- g) Voting (e.g. Quorum)
- h) Shared whiteboards **Yes**
- i) Remote instrument control
- j) Remote controlled cameras
- k) Shared computer displays and terminals **Yes**
- l) Electronic notebooks **Yes**
- m) 3D Visualization (e.g., CAVE)
- n) Source code/version control **Yes**
- o) Shared document repositories **Yes**
- p) Shared authentication certificate server **Yes**
- q) Shared directory server (for resource discovery or other purposes) **Yes**
- r) Other (describe) _____
- s) Other (describe) _____
- t) Other (describe) _____

6. Which three of the above (a-t) are the most important capabilities to the success of your project?
a, e, p.

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7. What is the distribution of operating systems used on desktop systems in your project?
(Please give approximate percentages.)
8. We assume this means the desktop for collaboration and not for the application development . For the latter it is 100% Unix – 75% Linux and 20% Solaris and 5% other
- 50 % Windows (list variations) windows 2000, nt
 ___% Macintosh
- 50 % Unix (list variations) Linux,
 ___% Other (list) _____
9. What is the distribution of network connection speeds at sites involved in a major way with your project? (Please give the number of sites with each capability) What is the source of connectivity for these sites?
- ___ sites at T1, 1.4 mbps ESnet_____, Abilene_____, other_____
- ___ sites at T3, 45 mbps ESnet_____, Abilene_____, other_____
- ___4___ sites at OC3, 155 mbps ESnet___4_____, Abilene_____,
 other_____
- ___5___ sites at OC12, 633 mbps ESnet___2_____, Abilene___3_____, other_____
- ___ sites at OC48, 2.4 gbps ESnet_____, Abilene_____, other___2 NTON_____
- ___ sites at other speeds (describe) _____
10. Will network performance have a serious impact on the success of your project? **Yes**
- Yes** The project involves the use of distributed computational resources
 - Yes** The project involves the use of distributed data archives
 - Yes** Controlling end-to-end performance is critical to the success of the project
 - No** The tools that are necessary to monitor and diagnose end-to-end performance are available to the project
 - SciDAC application will generate _____% traffic increase on the network
 - The project has potential net security issues (describe briefly)___ We will need authentication for many distributed services such as peer to peer and client server applications for replication etc, for QoS etc. _____
11. What is the primary tool for diagnosing end-to-end performance (if used)
- Yes** Iperf
 - Yes** TCPDump
 - Yes** Pathchar (actually much prefer Pipechar)
 - Yes** Netlogger
 - Yes** - when it is available as a production service. Web100
 - Other ___bbcp_____

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12. What could be done at the scale of SciDAC as a whole to enhance your use of collaborative tools?
(Please rate on a scale of 1=most important to 5=least important.)

<i>Most</i>		<i>Least</i>	
1	2	3	4 5 Outreach about available capabilities (demonstrations, speaking at your project meetings)
1	2	3	4 5 Tutorials and training sessions on specific tools
1	2	3	4 5 One-on-one consulting on using/extending collaborative tools for a specific project
1	2	3	4 5 A set of recommended, tested software packages for typical SciDAC project needs (from COTS, DOE and other sources)
1	2	3	4 5 Web information about available capabilities
1	2	3	4 5 Electronic help desk
1	2	3	4 5 Time for information exchange about existing and new tools at PI meetings
1	2	3	4 5 Shared computing and data archive resources with a common interface (i.e., multi-Lab Grids)
1	2	3	4 5 Common security and authentication infrastructure and support
1	2	3	4 5 Common resource discovery and resource access services operated across labs
1	2	3	4 5 Other (describe) _Common collection management of derived data products.
1	2	3	4 5 Other (describe) _____
1	2	3	4 5 Other (describe) _____