

Consultant's Workbench and the WWW: New Productivity Tools at SDSC

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Introduction

The San Diego Supercomputer Center (SDSC) is a National Laboratory for Computational Science and Engineering, and one of four National Science Foundation High Performance Computing Centers. SDSC currently offers the following high performance resources to the 4000 members of its research community: Cray C90 (8 processor), Intel Paragon (400 node), DEC Alpha Cluster (9 nodes), Advanced Visualization Laboratory, and approximately 100 Sun, SGI, DEC, and IBM workstations. In addition to the traditional help desk role of user support, SDSC's consultants are called upon to provide long term, detailed support on research projects. Consequently, the staff available to provide traditional front-line help desk support is decreasing, and we must find ways to provide the same high quality service with fewer staff. Two key elements in our strategy to do this are the World Wide Web (WWW), and the Consultants Workbench (CWB).

The World Wide Web

Perhaps the biggest challenge to the user services group is that of providing up-to-date documentation for the various computer systems and installed applications. In the past this was accomplished through a combination of man pages, message of the day, a locally developed documentation system, local USENET news groups, electronic mail, etc. However, given the rapid increase in the deployment of new platforms at SDSC, and an accompanying increase in operating system upgrades and applications, the staff resources to get this information to our researchers is no longer sufficient under this old model. Fortunately the rapid increase in the use of the World Wide Web (WWW), and more importantly, the development and availability of user friendly tools for accessing the "Web" offers us new possibilities for distributing information to our users, and reducing the resources required to develop this information.

About one year ago, SDSC implemented its WWW server. In the beginning, very limited information was made available. This included information about SDSC, descriptions of ongoing research, and some limited user documentation.

We are now currently serving what could be called first generation pages. These pages were implemented quickly with

the main goal of making the information available. The information we currently serve includes:

- Cray, Paragon, and VisLab user guides
- Frequently Asked Questions (FAQ's)
- Access to all locally developed documents
- Documentation for locally installed applications
- Access to SDSC's local newsgroups
- Links to documentation at other sites

Figure 1 shows the number of user phone calls and electronic mail to the consultants on a monthly basis for the past year. Also shown is the number of "Non-trivial" accesses to the user documentation areas of our WWW server. Non-trivial accesses are defined as those which exclude accesses from the consultant's workstations, other SDSC staff WWW developer workstations, and accesses to documents which provide only links to information. "Inception" is defined as the month which we both implemented a "Consulting" area on the server, and began advertising it to our users. The trend shown in this figure is compelling. While the number of users at SDSC has remained constant or increased over the past six months, the number of user phone/email contacts has substantially dropped, while the number of accesses to our server has increased. The average number of phone/email contacts has dropped from approximately 700/month to 500/month. As a point of reference, SDSC's WWW pages typically receive about 130,000 accesses per month, while the consulting pages receive about 200 per month.

One concern we had in implementing our consulting pages was that we did not want to alienate those Cray user's with limited local resources who did not have a local WWW browser installed. To that end, we built and installed the text-based WWW browser Lynx on the C90. Cray users now have access, from the Cray, to the same information they would if they were running a local WWW browser.

The following list highlights some of the benefits that the WWW server has brought to SDSC and the user community:

- Reduces staff resources required for front-line consulting
- Single installed document database for all platforms
- Eliminates locally developed document system

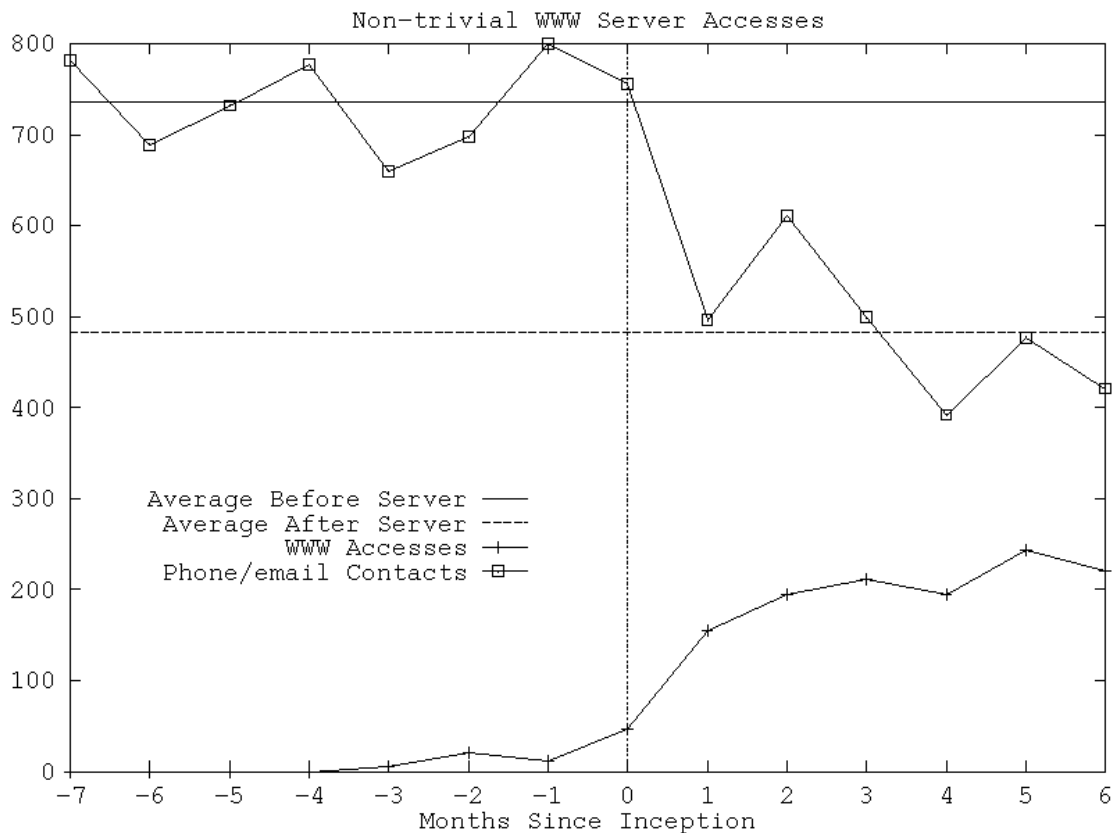


Figure 1: Impact of WWW consulting pages on user phone/email contact.

- WWW browsers are available to users at no cost
- Easy to code documents for the WWW
- Documentation is generally more up-to-date
- Fewer long distance phone calls for users

Consultant's Workbench

A secondary goal of the NSF centers is to provide educational experiences for students and therefore, we often employ them as consultants. The time to train these students, and the turnover rate due to graduation, or other circumstances can make it difficult to provide a consistently high quality and efficient help desk.

A key area we are focusing on is reducing the time to train new consultants. To this end, we have implemented the Consultant's Workbench (CWB). This is a Graphical User Interface (GUI), based on tcl/tk to the various tools used daily by the consultants. The CWB is a modified version of the Scientist's Workbench developed at the Cornell Theory Center (CTC), another of the National Science Foundation High Performance Computer Centers.

The CWB has the potential to significantly reduce training time by:

- Providing access to multiple platform consulting tools from a single workstation
- Making the tools available through a simple graphical interface
- Eliminating the need to recall command syntax
- Reduce the time to assist users.

To date we have incorporated the following Cray related capabilities to the CWB:

- NQS batch job tracking
- NQS batch job control (qmgr)
- NQS batch queue information
- User command summary (CSA data)
- User resource allocation information
- Posting of important news items
- Miscellaneous CRI utilities (explain, define)

A typical CWB interface is shown in figure 2. This particular example is an interface to C90 NQS batch job information.

We have no statistics on the time saved by using CWB, but our student consultants have commented on its usefulness.

Conclusions and Plans

We are very encouraged by the effect that our consulting WWW pages have had on our consulting load. If the trend which started six months ago continues, it will most certainly indicate that the WWW is an effective tool for user consulting.

Our plans include:

- Redesign of consulting pages
- Eliminate hardcopy mailings of user documentation
- Add a "consultants only" area to centralize information for consultants

- Add searching capability to the consulting pages
- Continue development of the CWB and add support for all platforms

For More Information

An on-line version of this paper is available at SDSC's WWW server using the URL:

<http://www.sdsc.edu/SDSC/Services/Consult/Papers/papers.html>

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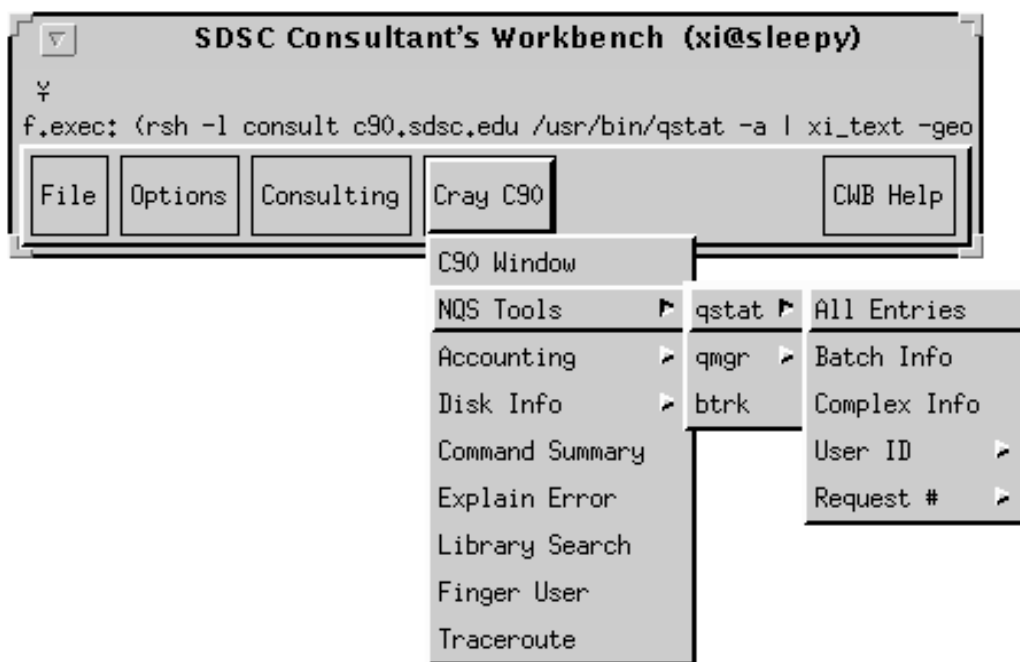


Figure 2: The Consultant's Workbench.