The American Physical Society

335 EAST 45th STREET, NEW YORK, NEW YORK 10017-3483 (212) 682-7341

July 9, 1993

Ms. Louise Addis
SLAC Library
Stanford, CA 94309

Dear Ms. Addis:

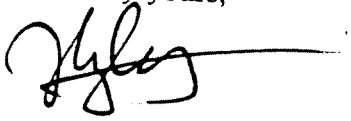
It was a pleasure to make your acquaintance at the recent SLA meeting in Cincinnati. The P-A-M sessions that I was able to attend during my half day (12 noon to 12 midnight) visit were excellent and I found your late evening demonstration of the SLAC preprint service program particularly interesting. We want to thank you, especially, for having taken the time to meet and exchange information and views with Professor Barschall and me over dinner. We learned a lot!

As I promised (or perhaps threatened) I am sending you a draft of the request for proposals we intend to distribute to potential vendors in an effort to begin putting *Physical Review Letters* on line in 1994. We would like your comments and suggestions for improvements on all aspects - technical, economic, even "socio-political" (i.e. relating to the role of the libraries in the distribution scheme that is envisaged). We are sending the material to only a small number of librarians and other friends whose opinions and advice we have reason to value. However, please feel free to show it to colleagues who may have something to contribute.

Please remember that what we are sending you is a draft and that the final RFP may be different, as a result of the comments that we will receive from you and others. Two aspects are, however, unlikely to change: 1) our desire to make the electronic version available to paper subscribers at minimal additional cost and 2) our commitment to permanently maintain the archival integrity and accessibility of the electronic product.

Please send your criticisms, comments and proposals for change either to Ben Bederson, our Editor-in-Chief (tel. no. (212)998-7695, fax no. (212)677-5943, e-mail: BEDERSON@ACF2.NYU.EDU), or to me (tel. no. (212)682-7341, fax no. (212) 687-2532, e-mail: APSAP@CUNYVM.CUNY.EDU). Thank you so much for your help.

Sincerely yours,



Harry Lustig

Encl.
HL/mjc

Request for Proposal,

Physical Review Letters of The American Physical Society

Introduction

The American Physical Society (APS) publishes seven journals, considered to be among the world's leading physics research journals. These journals are:

- Physical Review A through E, the archival journals that publish important new results in the various subfields of physics.
- Reviews of Modern Physics, which publishes selected review articles in important subfields of physics.
- Physical Review Letters (PRL), which publishes important and timely short articles judged to merit speedy production.

PRL covers essentially all subfields of physics and other closely related disciplines. It possesses what is probably the largest audience of physicists and physical scientists in the international physics literature. PRL is produced weekly. In 1992 the APS journals generated approximately 70,000 pages, of which about 10,000 pages can be attributed to PRL. A recent copy of PRL is attached, for your information.

Statement Of Work

Our ultimate goal is to make available all of our journals in electronic form to libraries and individual users. However, this RFP is directed specifically at PRL.

In essence, we are seeking a vendor who will work with us to deliver PRL online, with a full range of enhancements, and with charging algorithms that would, after several years, make the electronic product self-supporting. We require, in the first instance, that only current issues be made available, starting with the first issue of Vol. 74 (July 1, 1994). We will consider auxiliary proposals; in which sequentially produced volumes, starting with Vol. 73 and working backwards, will also be made available electronically.

The target group for this product is the international community of physicists and other physical scientists who read PRL either through institutional, that is, library, subscriptions, or as individual subscribers, referred to hereafter as "users".

General Requirements

The electronic product is to be produced concomitantly with the printed version, which must continue to be published unchanged (except perhaps with some minor style changes).

The electronic version must be portable and accessible to users through the most commonly used operating systems, including xwindows/UNIX, DOS-windows/PC, and Apple-Macintosh, through Internet as well as other non-commercial and commercial delivery systems.

Monitoring of usage is the responsibility of the vendor. Details are discussed below.

Secondary products such as CD-ROM versions should be made available at modest incremental cost.

Bids should be offered on two bases: (1) starting with a current issue forward, and (2) retroproduction from the current issue backward, for a minimum of five years. Item 2 could be phased in over a period of approximately one year.

Specifications

- A. Full text, equations, and figures should be comfortably readable on the screen.
- B. A good printed copy should be obtainable without excessive delay at the user's workplace.
- C. For institutional subscribers (libraries): Subscription costs, or licensing fees, should be scaled, that is, based upon the number of simultaneous users for which the specific subscription is designed. In presenting the bid, the maximum number of simultaneous users at a given institution should be specified. The maximum number of simultaneous total users at all institutions any given time, for an on-line version of a particular PRL issue, is estimated to be 100. The maximum number of total users at any given time for all on-line users is estimated to be 300.
- D. Time delays: For a single user at a given site, the first page of an accessed article/ journal should require no more than 3 to 5 seconds; subsequent pages no more than 1 to 3 seconds. Each additional user at a given site can result in an additional first page delay of 0.1 to 0.2 seconds. These figures apply when the total number of users at a given time is less than 300. Beyond this figure, an additional first page delay of 0.1 seconds per user is acceptable.
- E. Any sequence of pages from a given article should be accessible.
- F. Color: APS will consider as an optional add-on a proposal to include full color figures on screen, and printable with a color laser printer.
- G. Equations: Equations should be reproduced exactly as composed.

- H. Figures: Figures should be embedded in the article exactly as presented in composed article. Resolution of figures on the screen should be equal to or better than 300 dpi; in print equal to or better than 600 dpi.
- I. Durability and archival integrity: As already noted, the electronic and printed versions of PRL are to be the same.

The intent is to maintain the electronic version indefinitely. Subsequent changes in the electronic version which result in any textual and substantive contextual change, for example to correct typographical errors, is not permitted. Any subsequent changes must appear as Errata (see below).

Searches

- A. User is supplied with running index by title and authors.
- B. User must be able to find the article(s) either directly from the index, or by:
    - i. Volume number, page number or equivalent
    - ii. Title
    - iii. Author or co-author plus date; supplied article is the one that comes closest to the stated date.
- C. More general searches. Here the titles and authors appropriate articles are presented; user can then select desired articles' one at a time. General searches include:
    - i. Keyword(s) in Boolean search
    - ii. Pacs numbers
    - iii. Any given set of words in the structure, text or figures in the article. This search capability should be Boolean and linguistic and be capable of being limited to title, abstract, etc.!..
- D. Related articles: PRL articles that are already in the electronic data base that are referenced in the text should be accessible from the reference list. Comments and Replies to Comments (related critical articles subsequently published by other authors in future PRLs, and author replies to these Comments) should be noted. A similar condition applies to subsequent Errata.

General Remarks

We consider this project as a pilot proposal, expected to have a duration of three years from the starting date. Experience gained in this project will be used to modify subsequent RFPs. Should experience warrant, we will in subsequent RFPs extend the project to other APS journals.

APS will supply to the vendor the necessary key strokes, using a version of Tex. The version to be used will be Revtex, a variation of Latex developed by APS to conform best to the style requirements of our journals. Additional SGML tags will also be supplied by APS, as mutually agreed upon. Figures will be supplied either as Postscript files (when supplied by the authors) or as bit-scanned images, produced by APS from figures provided by authors.

APS and the vendor are expected to work together with the producer of the paper version, in order to minimize duplication of effort. The intent is to make the electronic version available, from the same source as the paper version, at minimal incremental cost. APS will consider joint proposals by the vendor along with the producer of the paper version (even including the printing and distribution of the paper product).

The search and other enhancement capabilities can, of course, be proprietary, belonging to the vendor, although we prefer as open architecture as possible, subject to the ability to monitor and control usage. All keystrokes, etc., supplied to the vendor, remain the property of APS and are to be returned to APS upon completion of the project, if so requested. The copyrights for all electronic products are reserved for the American Physical Society.

Schedules

Bids should be submitted no later than _____, 1993. The contract will have a three year duration. The on-line product is to be available no later than six months from the start of the project, which will be on Jan. 1, 1994. A working prototype is to be available no later then three months from the start of the project. The prototype should be portable to Dynix/PTX V2 running on a SEQUENT S2000/250, X/Windows & Motif, DOS-Windows/PC and Apple Macintosh.

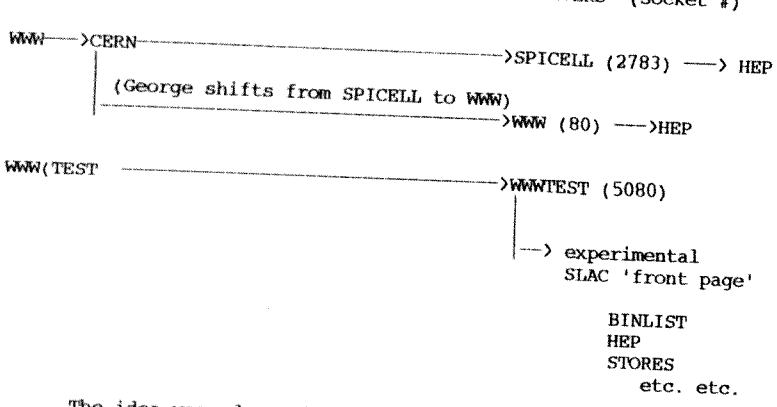
There will be six month reviews, which will be based upon the following performance criteria:

- i. Assurance that the product is initially made available, on time.
- ii. Assurance that the required technical standards are being met.
- iii. Assurance that the network availability is adequate.
- iv. Appraisal of ongoing APS-vendor interactions to assure adequate consultation.

4/8/92
Wizard minutes

We asked Joan to recap her report from the last meeting about the socket allocation situation. Her investigations disclosed that sockets above 5000 are used for testing (in a sort of free-for-all). She suggested (to tha socket police) a formula that would assign the test socket by adding 5000 to its permanent socket assignment. Since the new permanent socket for WWW is 80, our test socket would be 5080. While the socket solons deliberate, we will go ahead and use 5080 as our test port.

Tony represented our current preferred configuration with a picture worth at least 5080 words (which were said anyway), roughly recreated below:



The idea was advanced that non-SLAC WWW front pages could directly access HEP and not be able to see the references to SLAC specific functions like 'STORES'

Action items (past, present & future):

1. Bebo will add an option (TEST to the WWW exec which will activate the test version on the WWWTEST server rather than connecting to the CERN front page. (At present, our 'production' version of WWW on all three platforms, SLACVM, SLACVX, and UNIXHUB, utilizes the CERN front page. This, of course, leads to the ironic situation in which folks on SLACVX can (and do) search the HEP database via CERN. When our own front page is solid, we can switch.)

2. Louise will add a second 10 cylinder 192 disk to both accounts WWW and WWWTEST.

3. George will arrange for WWW and WWWTEST to run as servers (autolog, etc.). WWW will respond thru socket 80 and will be the home of our official, production WWW 'front page' and the SPIRES connection.

WWWTEST will rspond thru socket 5080 and will be home to the TEST version of the SLAC front page and other hypertext menus as they develop and are tested. (see 1. above for how to invoke)

SPICELL will be phased out as everyone switches to 80.

4. George and Joan will make sure that any disks on the test account WWWTEST and on the main server WWW can be used with the INSTALL exec.

5. Mark reported that he has revised AID to point correctly to WWW as World-Wide-Webb instead of the old WWW (who, what, where) WYLBUR exec (finished in all senses).

6. Louise dumped the log file for HEP and counted the number of 'FIND' commands from the SPICELL server. For the period 2/28/92 thru 4/6/92 (about 5 weeks) there were 1425 searches. This is a very small number relative to the some 15,000 calls to HEP via the QSPIRES server in the same period, but since there has been little publicity, it's interesting.

The HEP log doesn't show the IP address of the inquirer and various methods were discussed for capturing this information. No specific action item was settled upon though George and/or Bebo may decide to experiment.

7. Bebo reported that Les Cottrell has offered a known and very clever summer student, D. Sisk, for possible WWW project work.

Bebo suggests that he be set to writing a WWW maintenance and installation cookbook for the three platforms, VM/CMS, SLACVX and UNIXHUB. The idea was a hit and Bebo will accept the offer and plan a project. Mark suggested that the project be thoughtfully segmented so that SLAC is left with finished modules. Often summer students are given too large a task and SLAC is left with something unfinished and useless.
That idea was a hit also.

sadly never happened

8. Note was taken that CERN rearranged its WWW front page last week and the information for the SLAC HEP item isn't quite current. Louise will email Tim B about this and also pass along Tony's reminder that AIXTERM still doesn't work with WWW.

8. Joan suggested that a warning about AIXTERM be included on the SLAC front page when we have such a thing. She'll be working on some menus.

9.Louise mentioned she's put together a 'help' file for HEP in which the sections are numbered appropriately for conversion to HTML...will be working with George, Joan and anyone interested, to ready it for inclusion under another menu item.

4/29/92 wizard minutes
LXA1

WWWMIN 920429 A0 Dated 01/11/94 23:23:08 From disk LXA191 Page 1

To: ADDIS@SLACVM, BEBO@SLACVM, PFKEB@SLACVM, TONYJ@SLACVM, CRANE@SLACVM, WINTERS@SLACVM, MEB@SLACVM
Subject: Minutes, WWW Working Wizards, 4/29/92

Present: Addis, Bebo, Crane, Meb, TonyJ & Winters

Bebo reported that CMS HELP files are now installed for WWW. Also the WWW (TEST command is now available.

Fermilab and SSCL contacts for WWW.

Fermilab - Pordes
SSCL -

Discussed Gopher which is a VM/only full screen WWW-like interface.

WWW now interfaces, in turn, to Gopher.
Daryl Siske?

Bebo has been invited to CERN for a month (they'd pay only his living expenses) in fall to work on WWW documentation, technical direction, etc. He can go if SCS can fund air ticket. Wizards think its a good idea...

Bebo will make a written list of WWW matters he'd try to deal with on the trip and send a copy to us.

Tony will do a test version of WWW for HEPLIB database.

Joan will finish preparing WWW and WWWTEST 192 disks with INSTALL.

Louise requested WWW (TEST for a demo at the Particle Data Group Review Committee Meeting next week so she can put up hypertext access to PDG EXPERIMENTS database (and some others).

Bebo will also make arrangements for WWW access to be logged for statistics.

10/07/92
big minutes

.im syspaper hyph=off just=off date="27 October 1992"
.to
WWW Wizards
.from
L. Addis
.subject
Hasty notes from the WWW Wizards meeting of 7 October 1992
.body

.point begin
Bebo reported on his month with the WWW group at CERN. Original plan 1. e-mail browser thru w3 and 2. mapping the web turned into with the big experimental group, ALEPH, to get their WWW information system going. He wrote three w3 servers.

There are several browser efforts underway at present, U. Helsinki- Erwise (X), Irnet (Indian research network) & Australia Nat'l U. are examples.

CERN WWW now have a formal 'financial plan' for WWW distribution. It hasn't yet been released but the general thrust is that the W3 protocol is public domain. Support is free in the high-energy physics world but becomes progressively more costly as you move away into non-member state Academia and then out into the commercial world. (Presumably the commercial world has deeper pockets though you wouldn't know it from the Wall Steet Journal bankruptcy reports lately.)

WWW activities include code to generate code, Oracle servers, password protection, Postscript and gif file support, &, a Macintosh browser (Susan Poades). There's no effort on CERNVM.

Bulk of development is done on NeXT and apparently our NeXT WWW software is quite out-of-date.

There was discussion of the current status of WWW versions at SLAC which isn't perfect (see wish list). Bebo is working on installing new Viola browser but has problems. We all await new version of WWW to see if it fixes some bothersome problems such as the defective timeout on sockets to the preprint bulletin boards. (Wei Pei of Viola has gone commercial with Nutshell press.)

Tony J. reported on the Annecy conference where Timbl's WWW talk was well attended and well received.

Tony working on upgrades to Midas ... can now mail the contents of a search to self or to any e-mail address.

He is looking at graphics (postscript).

George has been tinkering with the spires server.

12/16/92
W3 Mtg.

.im syspaper hyph=off just=off date="11 January 1993"
.to
WWW Wizards
.from
L. Addis
.subject
Minutes - WWW Wizards meeting of 16 Dec 1992
.body

Present: Addis, Ago, Bebo, Crane, Ilse, Slavko, TonyJ, Vani, Winters

.point begin
Bebo has installed the new version of line browser on SLACVM, which gives us a greatly improved interface with PF key control. PF7 & PF8 scroll back and forward in the traditional VM way.

Two problems:

.point begin
Labeling of PF03 and PF04 need clarification. PF03 says 'quit' but really means 'go back one'. PF04 says 'return, recall' but really means Quit W3.

Bebo will comment to TimBL (these should either be reversed or at least relabeled)

.point
Very buggy in certain circumstances when one tries to go back one step. Demoed to Bebo who will trace problem & report to CERN. It is quite reproducible and does not occur in Midas.

UPDATE: Bebo installed a newer version of the line browser which seems to have fixed the problems. (Thanks to Harv Galic for helping identify all the glitches.)

.point end
.point
Current APS News (last 4 or 5) now available on WWW (TEST. Bebo is working on making this happen weekly as part of bringing APS news to SLAC Netnews (Billie Bennett does this).

Datasets have been renamed to format AN921204, i.e. AN yr mon day

Update: So far it hasn't happened automatically yet. But we're eager to move it to the production version. Maybe by next mtg?

.point
Ilse reported that Renata Dart will install version 0.14 of the W3 browser for the NeXt before the end of January. (Current NeXt version is 0.13.)
Current version is already installed on NeXT Reason cluster.

.point
Addis reported that there's now a test format which displays HEP references with html markup. Looks great on the Midas Browser. Abstracts and full text papers are clickable. (Thanks to TonyJ for showing us how to do

the html markup and Harv Galic for writing the SPIRES format that does it.)

To try this out on Midas, click on HEP publications and do a search like FIND BULL HEPTH AND DATE JAN 93 (USING WWWG.TEST This, or something similar will soon become the WWW default for HEP.

.point
Several publicity projects are in the hopper:
.point begin
TonyJ is preparing a message to all attendees at the W3 seminar last year. All comments should be returned to TonyJ so final draft can be ok'd at next meeting and the message e-mailed in Jan 93.
.point
A W3 article for the new SCS News has been requested. TonyJ's write-up will form basis.

Update: article is in press.
.point
LXA has prepared draft of TIP article (copy to Ilse also in case it has useful bits for SCS News article.
.point
Demos are in the queue for Theory Seminar, Leith, and Richter. Plans should be made in January.
.point
Flyer on W3 at SLAC needs preparation (one sheet foldover) for distribution from service desk and library.
.point end
.point
Winters suggested adding VM NEWS to front page since it's an easy way to get general news to a large population (often more than 300 people logged onto SLACVM). Sounded fine to group. Bebo and Winters will do it in WWWTEST.
UPDATE: it's there
.point
Bebo brought test version of Mac Browser which appears a little rough. Ago will take a look at it.

update: Bebo now has a new version and will pass to Ago.

.point
Bebo is giving a SHARE talk on W3 in Feb & plans in meantime to make a video of the MIDAS screens for purpose of talks in a 'system down' or no network environment.

.point
TonyJ installed public release 1.0 + 'fix' .001 of the MidasWWW browser (fixes the CERN link problem). He had over 100 ports of the software in the first week including Apple, H-P, etc.
He has not yet released his test version which views TIFF graphics. (He demoed weather maps and photos of certain SLD collaborators.)

.point
The WEB command now works on all line command platforms, VMS, SLACVM, and UNIXHUB.
.point
SPICELL is now (gratefully) dead and WWW listens on two sockets now.

This fixes the problem of WWW links to old html files on SPICELL. We now only need maintain code on the WWW account.
.point
TonyJ raised the question of what to do with all the many files on SPICELL which Terry Hung used in original compilations. Bebo & Winters will organize code for maintenance and put it someplace. Lxa will reclaim spicell.

.point
TonyJ visited the SSCL last week. They are still somewhat unsettled & he didn't immediately find a place to do a Midas installation. He expects, however, to be able to do a NeXT installation from here shortly.

Update: Keith Rich visited Paul Kunz here recently and is now very interested in using the Web at the SSCL. (He's been doing the specs for their Control System.)

TonyJ also did a demo for the BES group. Believes he could install a feasibility demo to show a postscript document (i.e. a couple of SLAC preprints).

.point
Question was raised about where we should be posting our messages to each other. Bebo will start up an archiving listser so we don't need to maintain our own names files. We may also be ready soon to post selected files to a netnews group.

WWW - IT'S TIME TO TANGLE WITH THE WORLD-WIDE-WEB
WWW - GET CAUGHT UP IN THE WORLD-WIDE-WEB

Need to find out about next week's seminars? or the week after? or today's? but don't want to log on SLACVM?

Try the WEB.

Need to locate a book or preprint in the library but can't remember how?

Try HEP publications or BOOKS on the WEB

Want to find a phone number, room number, or e-mail address for a fellow SLACer?

Try SLAC phones on the WEB.

Want to find an e-mail address for a physicist at Serpukov? or Cornell? or Kek? or someplace? but can't remember the QSPIRES WHOIS command?

Try HEPNAMES on the WEB

Want to find a conference in Dallas next year? or maybe Aspen or Paris?

Try CONF on the WEB

Want to find out where to get the source for that neat Monte Carlo program you heard about? Or find another comparable one?

Try FREEHEP on the WEB

Need to look up a widget in the Stores catalog?

Try STORES on the WEB

Need to find out who's on the SLD collaboration these days?

Try SLD on the WEB

Want to get to GOPHER and all those libraries and services which are waiting out there on the Internet?

Try Gopher on the WEB

Want to read this week's "What's new (in my opinion)" from the great Bob Parke?

Try APSNEWS on the Web.

And what is this WEB? Well it could be kind of a long technical story, but in brief the World-Wide-Web (WWW or fondly W3) is an exciting new way to explore the Internet. It's based on a scheme called HYPERTEXT and originates with some clever folks at CERN and with enhancements from the world-wide user community, including a major 'Browser' called 'Midas' from Tony Johnson of our own SLD Collaboration. It provides a a single way to see a lot of diverse information from all

over the world from your own local computer. But it's really easier to use it than to describe it. It doesn't matter what kind of terminal you've got, if you can log on to NeXTs, RS6000's UnixHub, SLACVX, SLD, and SLACVM you can tangle with the WEB. There's only one command to remember, WEB for folks with X-windows, WWW for the rest of us. The WEB is more fun and looks better if you've got X-windows and a color screen, but it works fine in black and white on an Ambassador, Modgraph, Lee Data or any VT-100/VT-200 emulation.

And finally, do you have some information you'd like to see on the WEB?

Try contacting one of the SLAC WWW Wizards. They're listed, of course, behind the WWW Wizards button on the WEB.

12/2/92
draft of
popular article
LXA

To: WWWizards
Fr: Addis Date: 16 Mar 94
Subject: The Migration of '94, a working outline

Reasons for moving our primary W3 server (www.slac.stanford.edu) to Unix?

1. Can use http/1 modern server .... since no development is being done on VM as SLAC prepares for general migration to Unix, we are stuck with old code in the VM server which doesn't provide needed features (i.e., security, redirection, etc.)
2. Response time is significantly better on Unix?
3. Since SLAC is moving to Unix over then next couple of years, we should make it easy on ourselves and move now to minimize the pain.
4.....????

What are the problems in moving the SLAC main server and home page to Unix? Would we have to continue supporting a W3 server on SLACVM once the main W3 pages and associated files were moved to Unix?

1. The main problem is SPIRES. Heaviest usage of W3 at SLAC at this time is SPIRES - HEP database usage (over 40,000 calls in Feb 94).

SPIRES runs on SLACVM and, though there is a test version of SPIRES running on Unix, it is not feasible at this time to switch.

There are three databases to which URL's point from many many W3 'pages', HEP, BINLIST, and SLACSpeak (glossary database).

All 'relative' URL's which point to these and other SPIRES databases must be expanded in all occurences in html files which are moved to the Unix side.

2. There are also URL's which point to datasets which are maintained for other than W3 purposes on a number of SLACVM disks. URL's for these files must also be expanded.

3. While the SLAC home page can be edited to provide fully qualified links where appropriate, there are other html files over which Winters has no control which will need to be changed.

Some possible solutions

1. Use the 'redirection' features of the new servers and browsers to fully expand the URL's on the fly????

2. As an interim measure, use NSF mounting (Bebo has a test going) of the W3 disks from SLACVM to Unix...to avoid actually moving the files for the present. Fix as many URL's as possible, use redirection where appropriate.

3. To handle the ubiquitous BINLIST and SLACSPEAK SPIRES references, use the test Unix SPIRES (USPIRES) to serve these two small databases. (JXH, Bebo, Crane & CLancey have a test going now). This would allow

'relative' URLs to continue in use for these databases, cutting down greatly on the number of expanded URLs which have to be provided.

3. Start using special WWW aliases for SPIRES URL's for both SLACVM and LIBNEXT so that when the service moves to another platform, it will be transparent.

Proposed: WWW-SPIRES or WWWSPIRES for SLACVM (Spires only)
WWW-PUB or WWWPUB for LIBNEXT (.ps.Z document server)

94/03/16

L+A

S L A C M E M O R A N D U M 31 March 1994

To: WWWizards

From: L. Addis

Subject: Machine aliases for W3 use

The following aliases have been established for use on W3 pages referring to SLAC W3 servers. The use of these aliases instead of the real names of computers (i.e. SLACVM, SLACVX, LIBNEXT, etc.) where W3 servers reside will aid in future migrations as the SLAC home page moves from SLACVM to UNIX, and from one Unix platform to another and as other files and services (such as SPIRES and full text documents) move from one machine to another.

The convention is lowercase...with a prefix of 'www-' in keeping with the general web conventions.

ALIASES:

1. www-slac (SLACVM) - Use www-slac to refer to all non-SPIRES-related files which, for the present, must be maintained from VM. Examples would be files on the U-disk.

2. www-spires (SLACVM) - Use www-spires to refer to all SPIRES-related files with the possible exceptions of single calls to BINLIST, SLACSPEAK, and INSTITUTIONS.

   A partial list of SPIRES databases which should be handled thru www-spires

   a. HEP

   b. BOOKS

   c. STORES

   d. CONF

   e. PROBTRAK

   FREEHEP should be handled thru alias HEPLIBW3 which is an old alias for SLACVM which is already in place.

3. www-sld (SLACVX)

4. www-sldora (SLACVM) - use for Oracle

5. www-midas (SLACVX) - use for Midas-related files

```
.im syspaper hyph=off just=off date="18 February 1994"
.to
WWW Wizards
.from
L. Addis
.subject
Hasty notes from the WWW Wizards meeting of 16 Feb 1994
.body

.point begin
Laurie Gennari reported on the Adobe Acrobat demonstration which
she attended thru "Informative Edge".  A representative fromAdobe
demonstrated the exchange of documents from Mac to PC and back
thru the PDF (Portable Document Format).
```

WWW	HISTORY	A1	F
WWWMIN	921007	A1	F
WWWTECH	NOTEBOOK	A1	V
WWWREFS	FILE	A1	V
WWWPROXY	ULOG	A1	F
LIBRARY	9403WWW	A0	F
MINIWWW	HELP	A1	V
WWWSPI	NOTEBOOK	A1	V
WWWINDOW	NOTEBOOK	A1	V
WWWMAR30	SCRIPT	A1	F
WWW	940316	A0	F
WWWREFS	NOTEBOOK	A1	V
WWWMIN	930216	A1	F
WWWMIN	921216	A1	F
WWWMIN	920429	A0	V
LOOKWWW	EXEC	A1	V
WWW92	ARTICLE	A1	F
WWWMIN	920408	A1	F

RUNEXEC	910919	D1	V	74	21
TERRYH	DISK193	D0	V	107	46
FSEARCH	EXEC9205	D0	V	72	79
FSEARCH	EXEC9112	D0	V	40	7
WWW191	920108	D1	F	132	58
SPIRES	HTML91	D0	V	74	14
SPIRES	INDEX91	D0	V	73	12
TERRYH	911031	D0	V	93	87
SPIC191	930105	D1	F	132	90
SPIC191	920107	D1	F	132	72
WWW192	920707	D1	F	132	273
GALIC96	NOTEBOOK	D1	V	106	13446
HTML	NOTEBOOK	D1	V	106	8234
FILEDEF	SEP29	D0	V	79	3206
UNIXEDIT	NOTEBOOK	D1	V	111	3083
KEK96	NOTEBOOK	D1	V	111	3462
PAT96	NOTEBOOK	D0	V	106	7519
PDG96	NOTEBOOK	D1	V	100	6753
KYOTO	NOTEBOOK	D1	V	102	10328
CHECK	NOTEBOOK	D1	V	79	449
FIX	NOTEBOOK	D1	V	109	434
ACTIVE	FILE	D0	V	76	45
UNREAD	NOTEBOOK	D1	V	102	1437
HEPDEF	960720	D1	V	72	3422
GUERTIN1	NOTEBOOK	D1	V	101	9236
AFFIL	NEWCODES	D1	V	76	22980
JOURVOL	LIST	D1	V	90	5052
LOGVM	96FEB22	D1	F	80	3058
LOGVM	96JAN	D1	F	80	7543
FORMATS	DEADKEYS	D1	V	29	9
FORMATS	MORGUE	D1	V	71	1491
LIBCOMM	NOTEBOOK	D0	V	102	1056
PDG	SESSION	D0	V	108	1436
STEPHAN	NOTEBOOK	D1	V	80	1247
LEITH	NOTEBOOK	D0	V	84	1381
PLANT	SOURCE	D0	V	78	4531
AUTHORS	HEP94	D1	V	25	21393
MESSAGE	HISTORY	D0	V	73	33
HEPDEF	950501	D1	V	72	3235
STATUS	HEPALL	D1	V	103	4326
STATUS	HEPRES	D1	V	103	3605
CITE	STATS	D1	V	42	35
CODEN	COUNT	D1	V	80	6294
DUMMY	FILE	D1	F	80	1
FSEARCH	EXEC92	D1	V	72	79
RUNDAEMO	EXEC92	D1	V	65	21

1	11/20/96	9:40:46	ADD192	RUNEXEC	910919	D1
2	11/20/96	9:32:14	ADD192	TERRYH	DISK193	D0
1	11/20/96	8:41:20	ADD192	FSEARCH	EXEC9205	D0
1	11/20/96	8:37:45	ADD192	FSEARCH	EXEC9112	D0
2	11/20/96	8:13:02	ADD192	WWW191	920108	D1
1	11/20/96	8:09:07	ADD192	SPIRES	HTML91	D0
1	11/20/96	8:04:09	ADD192	SPIRES	INDEX91	D0
2	11/20/96	7:53:51	ADD192	TERRYH	911031	D0
3	11/20/96	7:37:54	ADD192	SPIC191	930105	D1
3	11/20/96	7:23:23	ADD192	SPIC191	920107	D1
9	11/20/96	7:22:12	ADD192	WWW192	920707	D1
142	11/12/96	21:26:01	ADD192	GALIC96	NOTEBOOK	D1
88	11/12/96	14:35:07	ADD192	HTML	NOTEBOOK	D1
27	11/04/96	17:13:51	ADD192	FILEDEF	SEP29	D0
32	11/04/96	17:13:00	ADD192	UNIXEDIT	NOTEBOOK	D1
35	11/04/96	17:04:11	ADD192	KEK96	NOTEBOOK	D1
80	11/04/96	17:02:12	ADD192	PAT96	NOTEBOOK	D0
67	11/04/96	17:02:00	ADD192	PDG96	NOTEBOOK	D1
82	11/04/96	17:01:31	ADD192	KYOTO	NOTEBOOK	D1
4	9/10/96	10:26:18	ADD192	CHECK	NOTEBOOK	D1
5	9/10/96	10:25:13	ADD192	FIX	NOTEBOOK	D1
1	9/10/96	10:22:12	ADD192	ACTIVE	FILE	D0
16	9/10/96	10:12:12	ADD192	UNREAD	NOTEBOOK	D1
28	7/20/96	17:38:49	ADD192	HEPDEF	960720	D1
95	3/24/96	7:23:14	ADD192	GUERTIN1	NOTEBOOK	D1
96	3/24/96	7:23:03	ADD192	AFFIL	NEWCODES	D1
87	3/14/96	1:11:12	ADD192	JOURVOL	LIST	D1
60	2/27/96	11:22:44	ADD192	LOGVM	96FEB22	D1
148	2/27/96	10:46:41	ADD192	LOGVM	96JAN	D1
1	1/23/96	20:31:03	ADD192	FORMATS	DEADKEYS	D1
9	1/23/96	20:11:04	ADD192	FORMATS	MORGUE	D1
11	12/08/95	12:07:02	ADD192	LIBCOMM	NOTEBOOK	D0
11	12/08/95	12:06:46	ADD192	PDG	SESSION	D0
14	12/08/95	12:05:34	ADD192	STEPHAN	NOTEBOOK	D1
15	12/08/95	12:05:26	ADD192	LEITH	NOTEBOOK	D0
26	12/08/95	12:04:42	ADD192	PLANT	SOURCE	D0
68	12/08/95	12:04:12	ADD192	AUTHORS	HEP94	D1
1	6/09/95	6:29:53	ADD192	MESSAGE	HISTORY	D0
27	5/01/95	14:43:08	ADD192	HEPDEF	950501	D1
66	4/28/95	9:29:35	ADD192	STATUS	HEPALL	D1
60	4/28/95	9:26:19	ADD192	STATUS	HEPRES	D1
1	11/20/94	21:32:01	ADD192	CITE	STATS	D1
25	11/20/94	19:21:10	ADD192	CODEN	COUNT	D1
1	8/04/94	3:25:46	ADD192	DUMMY	FILE	D1
1	5/10/92	11:33:24	ADD192	FSEARCH	EXEC92	D1
1	4/30/92	14:25:40	ADD192	RUNDAEMO	EXEC92	D1

```
TCP      H        Z1 V        91        180          2 10/14/91 15:47:28 TYH193
-----> Batch return code = 0.

-----> System cleanup $BCLEAN.

*****************************************************************************
*                                                                           *
* End execution of TYH239 for TERRYH at 18:42:59 on 14/11/91.               *
*                                                                           *
* Actual CPU time (mm:ss[.th]):      Virtual = 0:00.37 , Total = 0:00.64    *
* I/O counts:  SIO=000531 RDR-000000 PRT-000100 PCH-000071                  *
*                                                                           *
* Space used on A-disk at job end:  48K                                     *
*                                                                           *
* I/O counts on units still available                                       *
* Spool units                                                               *
* 0009:    87    000C:     0    000D:     2    000E:     0                 *
* 00AE:     0                                                               *
* Dasd units                                                                *
* 0190(S):    25    0191(A):    76    019E(Y):    45    0555(Z):    22     *
* 059E(T):    15    059F(U):     5    05A0(V):    32                       *
*****************************************************************************
```

To: WWWizards
Fr: Addis Date: 16 Mar 94
Subject: The Migration of '94, a working outline

Reasons for moving our primary W3 server (www.slac.stanford.edu) to Unix?

1. Can use http/1 modern server .... since no development is being done on VM as SLAC prepares for general migration to Unix, we are stuck with old code in the VM server which doesn't provide needed features (i.e., security, redirection, etc.)
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3. Since SLAC is moving to Unix over then next couple of years, we should make it easy on ourselves and move now to minimize the pain.
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SPIRES runs on SLACVM and, though there is a test version of SPIRES running on Unix, it is not feasible at this time to switch.

There are three databases to which URL's point from many many W3 'pages', HEP, BINLIST, and SLACSpeak (glossary database).

All 'relative' URL's which point to these and other SPIRES databases must be expanded in all occurences in html files which are moved to the Unix side.

2. There are also URL's which point to datasets which are maintained for other than W3 purposes on a number of SLACVM disks. URL's for these files must also be expanded.

3. While the SLAC home page can be edited to provide fully qualified links where appropriate, there are other html files over which Winters has no control which will need to be changed.

Some possible solutions

1. Use the 'redirection' features of the new servers and browsers to fully expand the URL's on the fly????

2. As an interim measure, use NSF mounting (Bebo has a test going) of the W3 disks from SLACVM to Unix...to avoid actually moving the files for the present. Fix as many URL's as possible, use redirection where appropriate.

3. To handle the ubiquitous BINLIST and SLACSPEAK SPIRES references, use the test Unix SPIRES (USPIRES) to serve these two small databases. (JXH, Bebo, Crane & CLancey have a test going now). This would allow

'relative' URLs to continue in use for these databases, cutting down greatly on the number of expanded URLs which have to be provided.

3. Start using special WWW aliases for SPIRES URL's for both SLACVM and LIBNEXT so that when the service moves to another platform, it will be transparent.

Proposed: WWW-SPIRES or WWWSPIRES for SLACVM (Spires only)
WWW-PUB or WWWPUB for LIBNEXT (.ps.Z document server)

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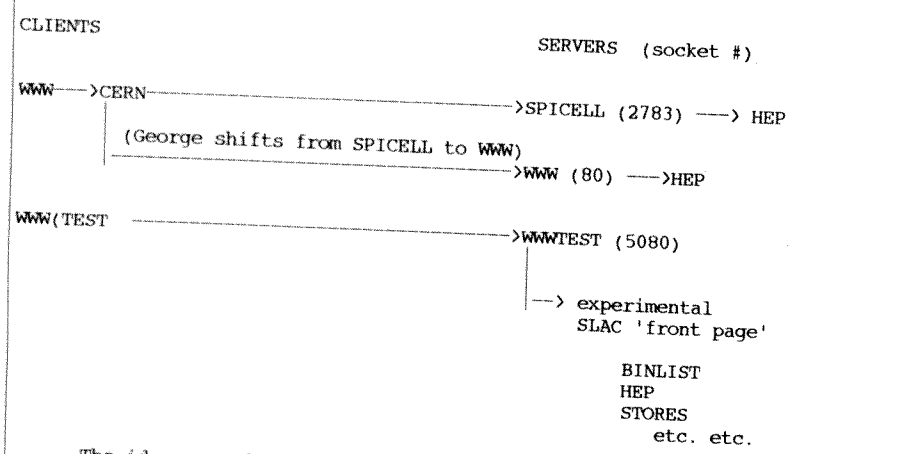
Tony represented our current preferred configuration with a picture worth at least 5080 words (which were said anyway), roughly recreated below:



The idea was advanced that non-SLAC WWW front pages could directly access HEP and not be able to see the references to SLAC specific functions like 'STORES'

Action items (past, present & future):

1. Bebo will add an option (TEST to the WWW exec which will activate the test version on the WWWTEST server rather than connecting to the CERN front page. (At present, our 'production' version of WWW on all three platforms, SLACVM, SLACVX, and UNIXHUB, utilizes the CERN front page. This, of course, leads to the ironic situation in which folks on SLACVX can (and do) search the HEP database via CERN. When our own front page is solid, we can switch.)

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SPICELL will be phased out as everyone switches to 80.

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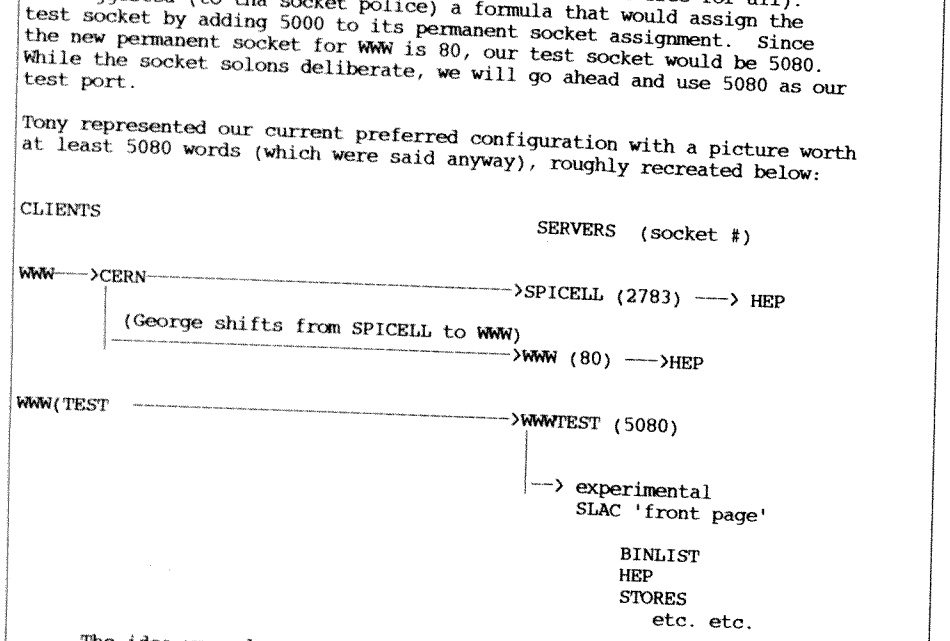

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From bebo@SLAC.Stanford.EDU Sun Mar 2 00:55:40 1997
Date: Sat, 01 Mar 1997 23:10:40 -0800
From: Bebo White <bebo@SLAC.Stanford.EDU>
To: addis@SLAC.Stanford.EDU
Subject: WWW6 History Track

Louise,

It's my understanding from Joan that you will not be demonstrating Midas and participating in the History Track at WWW6. I would like to ask you to reconsider since I strongly believe that your insight in those early days was really what got WWW going at SLAC. I also believe that your experience with SPIRES and the preprints database on the Web would provide valuable and interesting content to the conference attendees.

Thanks,
Bebo

Bebo – many thanks for your personal message – I know how very busy you must be with all the conference details.

I'll think over your suggestion for a couple of days. not to be hasty. however ~~I must tell you that~~ I warned Kevin H. a couple of months ago that the most I could contribute would be a demo of Midas if Tony was in Germany. When I heard from Joan that ~~she would do the~~ Tony had asked her to do the Midas demo, I was quite relieved not to have even that commitment as I am exceedingly busy with the move of the library databases to Unix. We have made our first deadline [illegible] [illegible] but there is a good deal more to do and ~~I'm committed to Pat~~ [illegible] until the time to ~~[illegible]~~ prepare a decent presentation. [illegible]

-1-

Deken Jean
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Conference Event

The First U.S. Web Site: SLAC, SPIRES, and MidasWWW

[Remove from my Calendar]

Date	4/11/97
Time	2:00 pm
Type	Presentation
Track	History
Status	Final
URL	http://www.webhistory.org/historyday/abstracts.html#joan
Location	W/TH Westin Theater
Coordinator	Joan Winters [winters@slac.stanford.edu]
Description	In 1991 the Stanford Linear Accelerator Center (SLAC) put up th first U.S. Web site. SLAC adopted the Web to give better access to its SPIRES database, the central forum for preprint scientific papers in the High Energy Physics community. The WWWizard: quickly formed as a forum for discussing all aspects of the Web. In 1992, SLAC's Tony Johnson released Midas, a pioneering pre-Mosaic GUI Web browser. Joan Winters, an original WWWizard, will demo SPIRES, the SLAC website, and Midas.

Interested Parties

Hide

First Name	Last Name	Title
Nigel	Hall	Web Developer
Deken	Jean	Archivist
Kjell	Lonnqvist	Webmaster
Jean	Slisz	Technical Editor

```
*************************************************************************
*                                                                       *
* Start execution of TYH239 for TERRYH, class S.                        *
* Execution begins at 18:40:52 on 14 Nov 1991 in BATCH07A at SLACVM.    *
* Submitted at        18:40:43 on 14 Nov 1991 for TERRYH at SLACVM.     *
* Running CURCMS, mode 370, storage = 4096K, time limit = 2 minutes.    *
* Max print = 10K lines, max punch = 100K cards.                        *
*                                                                       *
*************************************************************************

-----> Execute "R$COV193"

** RECOVER TERRYH 193 to TDISK **
DASD 0555 DEFINED
TAPE 0F13 ATTACHED TO BATCH07A 0181
TAPE 0181 ON DEV  0F13 R/W
MNTREQ100I 18:40:53 Mounting volume RL0357 on device 181, SL NoRing
MNTVER101I 18:41:18 Volume RL0357 on device 181 has been verified
Rewind complete
RESTORING TYH193
DATA DUMPED  10/31/91 AT 04.35.56  GMT FROM TYH193 RESTORED TO SCRATCH
INPUT CYLINDER EXTENTS       OUTPUT CYLINDER EXTENTS
        START      STOP      START     STOP
        0000       0000      0000      0000
END OF RESTORE
END OF JOB
18:42:59  * MSG FROM VMSETUPA: VMSCAN001I VMSETUP REQUEST FOR TERRYH TYH239 WILL BE CANCELLED
TAPE 0181 DETACHED BY VMSETUPA, TAPE VOLUME(S) UNLOADED
DMSCAR002E FILE(S) NOT FOUND.
```

FILENAME	FILETYPE	FM	FORMAT	LRECL	RECS	BLOCKS	DATE	TIME	LABEL
A	C	Z1	F	80	5	1	10/16/91	18:13:27	TYH193
A	ERRS	Z1	V	49	1	1	10/16/91	18:15:35	TYH193
A	TEXT	Z1	F	80	5	1	10/16/91	18:15:35	TYH193
BSDTYPES	H	Z1	V	70	120	1	10/15/91	18:01:30	TYH193
CC_ALL	EXEC	Z1	V	81	13	1	10/14/91	15:29:29	TYH193
CC2	EXEC	Z1	V	58	8	1	10/30/91	14:18:05	TYH193
CMOD	EXEC	Z2	V	62	201	2	10/30/91	15:38:28	TYH193
CMS	EXEC	Z1	F	80	13	1	10/19/91	10:50:58	TYH193
CMS	PRESERVE	Z1	V	65	30	1	10/30/91	16:15:36	TYH193
CPOBJ	RMAP	Z1	F	80	3	1	10/16/91	18:46:59	TYH193
DLOAD	EXEC	Z1	V	62	6	1	10/30/91	15:35:54	TYH193
EDCXV	C	Z1	F	80	5	1	10/16/91	18:08:43	TYH193
FGET	EXEC	Z2	V	78	129	2	9/26/91	11:30:24	TYH193
FINDGATE	C	Z1	V	78	245	2	9/26/91	9:58:03	TYH193
FINDGATE	C2	Z1	V	78	245	2	10/14/91	15:28:41	TYH193
FINDGATE	TEXT	Z1	F	80	113	3	10/30/91	14:18:46	TYH193
FSEARCH	EXEC	Z1	V	76	120	2	9/26/91	10:43:32	TYH193
HTDAEMON	C	Z1	V	85	639	5	10/15/91	18:10:19	TYH193
HTDAEMON	C2	Z1	V	85	639	5	10/15/91	15:45:38	TYH193
HTDAEMON	MODULE	Z1	V	65535	5	32	10/30/91	16:15:39	TYH193
HTDAEMON	TEXT	Z1	F	80	183	4	10/30/91	14:18:19	TYH193
HTTCP	C	Z1	V	79	282	2	10/16/91	17:04:54	TYH193
HTTCP	H	Z1	V	78	94	1	10/14/91	15:47:38	TYH193
HTTCP	TEXT	Z1	F	80	77	2	10/30/91	14:18:32	TYH193
HTUTILS	H	Z1	V	79	85	1	10/14/91	15:47:21	TYH193
LOAD	MAP	Z1	F	100	392	10	10/30/91	15:34:23	TYH193
MAKE	EXEC	Z1	V	51	6	1	9/19/91	14:06:07	TYH193
MYCC	EXEC	Z1	V	63	51	1	10/16/91	18:28:29	TYH193
NICFOUN1	EXEC	Z2	V	78	125	2	9/24/91	11:01:53	TYH193
PROFILE	EXEC	Z1	V	72	28	1	9/26/91	10:44:28	TYH193
Q	Q	Z1	F	80	52	2	10/16/91	17:22:58	TYH193
RUN	EXEC	Z1	V	74	21	1	9/19/91	14:19:57	TYH193
SETUP	EXEC	Z1	V	62	4	1	10/15/91	17:47:15	TYH193
STRING	H	Z2	F	80	75	2	10/16/91	17:07:43	TYH193

9/19/91 — Terryhung is working on www at SLAC

Gimme Terryh 193

one on current Terryh 193 looks for Buildit 11/06/91

runs Htdaemon on Port:800

```
*****************************************************************************
*                                                                           *
* Start execution of TYH239 for TERRYH, class S.                            *
* Execution begins at 18:40:52 on 14 Nov 1991 in BATCH07A at SLACVM.        *
* Submitted at        18:40:43 on 14 Nov 1991 for TERRYH at SLACVM.         *
* Running CURCMS, mode 370, storage = 4096K, time limit = 2 minutes.        *
* Max print = 10K lines, max punch = 100K cards.                            *
*                                                                           *
*****************************************************************************

-----> Execute "R$COV193"

** RECOVER TERRYH 193 to TDISK **
DASD 0555 DEFINED
TAPE 0F13 ATTACHED TO BATCH07A 0181
TAPE 0181 ON DEV  0F13 R/W
MNTREQ100I 18:40:53 Mounting volume RL0357 on device 181, SL NoRing
MNTVER101I 18:41:18 Volume RL0357 on device 181 has been verified
Rewind complete
RESTORING TYH193
DATA DUMPED 10/31/91 AT 04.35.56  GMT FROM TYH193 RESTORED TO SCRATCH
INPUT CYLINDER EXTENTS      OUTPUT CYLINDER EXTENTS
      START     STOP        START     STOP
      0000      0000        0000      0000
END OF RESTORE
END OF JOB
18:42:59  * MSG FROM VMSETUPA: VMSCAN001I VMSETUP REQUEST FOR TERRYH TYH239 WILL BE CANCELLED
TAPE 0181 DETACHED BY VMSETUPA, TAPE VOLUME(S) UNLOADED
DMSCAR002E FILE(S) NOT FOUND.
```

FILENAME	FILETYPE	FM	FORMAT	LRECL	RECS	BLOCKS	DATE	TIME	LABEL
A	C	Z1	F	80	5	1	10/16/91	18:13:27	TYH193
A	ERRS	Z1	V	49	1	1	10/16/91	18:15:35	TYH193
A	TEXT	Z1	F	80	5	1	10/16/91	18:15:35	TYH193
BSDTYPES	H	Z1	V	70	120	1	10/15/91	18:01:30	TYH193
CC_ALL	EXEC	Z1	V	81	13	1	10/14/91	15:29:29	TYH193
CC2	EXEC	Z1	V	58	8	1	10/30/91	14:18:05	TYH193
CMOD	EXEC	Z2	V	62	201	2	10/30/91	15:38:28	TYH193
CMS	EXEC	Z1	F	80	13	1	10/19/91	10:50:58	TYH193
CMS	PRESERVE	Z1	V	65	30	1	10/30/91	16:15:36	TYH193
CPOBJ	RMAP	Z1	F	80	3	1	10/16/91	18:46:59	TYH193
DLOAD	EXEC	Z1	V	62	6	1	10/30/91	15:35:54	TYH193
EDCXV	C	Z1	F	80	5	1	10/16/91	18:08:43	TYH193
FGET	EXEC	Z2	V	78	129	2	9/26/91	11:30:24	TYH193
FINDGATE	C	Z1	V	78	245	2	9/26/91	9:58:03	TYH193
FINDGATE	C2	Z1	V	78	245	2	10/14/91	15:28:41	TYH193
FINDGATE	TEXT	Z1	F	80	113	3	10/30/91	14:18:46	TYH193
FSEARCH	EXEC	Z1	V	76	120	2	9/26/91	10:43:32	TYH193
HTDAEMON	C	Z1	V	85	639	5	10/15/91	18:10:19	TYH193
HTDAEMON	C2	Z1	V	85	639	5	10/15/91	15:45:38	TYH193
HTDAEMON	MODULE	Z1	V	65535	5	32	10/30/91	16:15:39	TYH193
HTDAEMON	TEXT	Z1	F	80	183	4	10/30/91	14:18:19	TYH193
HTTCP	C	Z1	V	79	282	2	10/16/91	17:04:54	TYH193
HTTCP	H	Z1	V	78	94	1	10/14/91	15:47:38	TYH193
HTTCP	TEXT	Z1	F	80	77	2	10/30/91	14:18:32	TYH193
HTUTILS	H	Z1	V	79	85	1	10/14/91	15:47:21	TYH193
LOAD	MAP	Z1	F	100	392	10	10/30/91	15:34:23	TYH193
MAKE	EXEC	Z1	V	51	6	1	9/19/91	14:06:07	TYH193
MYCC	EXEC	Z1	V	63	51	1	10/16/91	18:28:29	TYH193
NICFOUN1	EXEC	Z2	V	78	125	2	9/24/91	11:01:53	TYH193
PROFILE	EXEC	Z1	V	72	28	1	9/26/91	10:44:28	TYH193
Q	Q	Z1	F	80	52	2	10/16/91	17:22:58	TYH193
RUN	EXEC	Z1	V	74	21	1	9/19/91	14:19:57	TYH193
SETUP	EXEC	Z1	V	62	4	1	10/15/91	17:47:15	TYH193
STRING	H	Z2	F	80	75	2	10/16/91	17:07:43	TYH193

9/19/91

Terryhung is working on www at SLAC

give Terryh 193

one on current Terryh 193 looks for Builist. 11/06/91

runs Htdaemon on Port:8000

	L1	LISTING	Z1	V	84	817
	L1	SCRIPT	Z1	V	9	3
	KER	LOG	Z1	V	35	14
	CMS	EXEC	Z1	F	80	13
	TERRYH	TYH239	Z1	F	132	87
	FGET	EXEC	Z2	V	38	6
	FGET	ORIG	Z2	V	78	132
	HTDAEMON	MODULE	Z1	V	65535	5
	CMS	PRESERVE	Z1	V	65	30
	FINDGATE	TEXT	Z1	F	80	113
	FINDGATE	C	Z1	V	78	245
	RUNDAEMO	EXEC	Z1	V	33	5
*	FSEARCH	EXEC	Z1	V	38	5
*	FSEARCH	SAVE	Z1	V	76	123
	FINDGATE	SLACVM	Z1	V	78	245
	FEARCH	ORIG	Z1	V	76	125
	SETUP	EXEC	Z1	V	62	4
	HTTCP	TEXT	Z1	F	80	77
	HTDAEMON	TEXT	Z1	F	80	183
	EDCXV	TEXT	Z1	F	80	9
	CMOD	EXEC	Z2	V	68	203
	FINDGATE	ORIG	Z1	V	78	245
	DLOAD	EXEC	Z1	V	64	4
	A	EXEC	Z1	V	68	10
	CC2	EXEC	Z1	V	58	8
	CPOBJ	RMAP	Z1	F	80	3
	MYCC	EXEC	Z1	V	63	51
	A	ERRS	Z1	V	49	1
	A	TEXT	Z1	F	80	5
	A	C	Z1	F	80	5
	EDCXV	C	Z1	F	80	5
	Q	Q	Z1	F	80	52
	STRING	H	Z2	F	80	75
	HTTCP	C	Z1	V	79	282
	HTDAEMON	C	Z1	V	85	639
	BSDTYPES	H	Z1	V	70	120
	HTDAEMON	C2	Z1	V	85	639
	HTTCP	H	Z1	V	78	94
	TCP	H	Z1	V	91	180
	HTUTILS	H	Z1	V	79	85
	CC_ALL	EXEC	Z1	V	81	13
	FINDGATE	C2	Z1	V	78	245
*	PROFILE	EXEC	Z1	V	72	28
	NICFOUN1	EXEC	Z2	V	78	125
*	RUN	EXEC	Z1	V	74	21
	MAKE	EXEC	Z1	V	51	6

13	11/05/92	14:47:54	TYH193	L1	LISTING	Z1
1	11/05/92	14:47:50	TYH193	L1	SCRIPT	Z1
1	7/08/92	7:12:11	TYH193	KER	LOG	Z1
1	5/25/92	10:35:02	TYH193	CMS	EXEC	Z1
3	11/14/91	18:43:33	TYH193	TERRYH	TYH239	Z1
1	11/06/91	17:15:56	TYH193	FGET	EXEC	Z2
2	11/06/91	17:08:04	TYH193	FGET	ORIG	Z2
32	11/06/91	17:06:05	TYH193	HTDAEMON	MODULE	Z1
1	11/06/91	17:06:02	TYH193	CMS	PRESERVE	Z1
3	11/06/91	17:06:00	TYH193	FINDGATE	TEXT	Z1
2	11/06/91	17:05:49	TYH193	FINDGATE	C	Z1
1	11/06/91	17:03:09	TYH193	RUNDAEMO	EXEC	Z1
1	11/06/91	15:20:28	TYH193	FSEARCH	EXEC	Z1
2	11/06/91	14:06:50	TYH193	FSEARCH	SAVE	Z1
2	11/06/91	13:57:17	TYH193	FINDGATE	SLACVM	Z1
2	11/06/91	12:04:44	TYH193	FEARCH	ORIG	Z1
1	11/05/91	14:57:21	TYH193	SETUP	EXEC	Z1
2	11/05/91	14:38:12	TYH193	HTTCP	TEXT	Z1
4	11/05/91	14:37:48	TYH193	HTDAEMON	TEXT	Z1
1	11/05/91	14:35:54	TYH193	EDCXV	TEXT	Z1
2	11/04/91	11:35:12	TYH193	CMOD	EXEC	Z2
2	11/04/91	11:30:12	TYH193	FINDGATE	ORIG	Z1
1	11/01/91	15:15:36	TYH193	DLOAD	EXEC	Z1
1	11/01/91	15:13:32	TYH193	A	EXEC	Z1
1	10/30/91	14:18:05	TYH193	CC2	EXEC	Z1
1	10/16/91	18:46:59	TYH193	CPOBJ	RMAP	Z1
1	10/16/91	18:28:29	TYH193	MYCC	EXEC	Z1
1	10/16/91	18:15:35	TYH193	A	ERRS	Z1
1	10/16/91	18:15:35	TYH193	A	TEXT	Z1
1	10/16/91	18:13:27	TYH193	A	C	Z1
1	10/16/91	18:08:43	TYH193	EDCXV	C	Z1
2	10/16/91	17:22:58	TYH193	Q	Q	Z1
2	10/16/91	17:07:43	TYH193	STRING	H	Z2
2	10/16/91	17:04:54	TYH193	HTTCP	C	Z1
5	10/15/91	18:10:19	TYH193	HTDAEMON	C	Z1
1	10/15/91	18:01:30	TYH193	BSDTYPES	H	Z1
5	10/15/91	15:45:38	TYH193	HTDAEMON	C2	Z1
1	10/14/91	15:47:38	TYH193	HTTCP	H	Z1
2	10/14/91	15:47:28	TYH193	TCP	H	Z1
1	10/14/91	15:47:21	TYH193	HTUTILS	H	Z1
1	10/14/91	15:29:29	TYH193	CC_ALL	EXEC	Z1
2	10/14/91	15:28:41	TYH193	FINDGATE	C2	Z1
1	9/26/91	10:44:28	TYH193	PROFILE	EXEC	Z1
2	9/24/91	11:01:53	TYH193	NICFOUN1	EXEC	Z2
1	9/19/91	14:19:57	TYH193	RUN	EXEC	Z1
1	9/19/91	14:06:07	TYH193	MAKE	EXEC	Z1

Restoration of Terry Hung's 193 disk (Terryh) from Nov 1992
shows - run exec from 9/19/91

```
********************************************************************************
* Start execution of LXA110 for ADDIS, class S.                                *
* Execution begins at 15:42:52 on 19 Nov 1996 in BATCH04A at SLACVM.           *
RESTORING WWW192
DATA DUMPED   07/07/92 AT 23.26.01  GMT FROM WWW192 RESTORED TO SCRATCH
```

** RECOVER WWW

FILENAME	FILETYPE	FM	FORMAT	LRECL	RECS	BLOCKS	DATE	TIME	LABEL
BINLIST	@HTML	Z0	V	82	13	1	4/30/92	14:16:47	WWW192
BINLIST	HELP	Z1	V	53	4	1	3/06/92	15:47:52	WWW192
BINLIST	HTML	Z1	V	46	10	1	5/28/92	16:29:07	WWW192
BINLIST	INDEX	Z1	F	80	10	1	2/27/92	14:54:47	WWW192
BINLIST	1@HTML	Z0	V	77	13	1	3/09/92	11:36:29	WWW192
DEFAULT	@HTML	Z0	V	75	10	1	3/18/92	16:07:42	WWW192
DEFAULT	HTML	Z1	V	79	10	1	4/30/92	14:17:03	WWW192
DEFAULTX	@HTML	Z0	V	78	12	1	3/18/92	16:02:28	WWW192
DEFAULTX	HTML	Z1	V	83	12	1	4/30/92	14:16:29	WWW192
DUMMY	FILE	Z1	F	80	1	1	4/10/92	15:17:09	WWW192
FGET	@EXEC	Z0	V	65	32	1	4/30/92	14:20:48	WWW192
FGET	EXEC	Z2	V	65	38	1	5/10/92	11:37:18	WWW192
FGET	1@EXEC	Z0	V	65	32	1	4/30/92	14:20:48	WWW192
FGET	2@EXEC	Z0	V	75	27	1	3/09/92	12:38:49	WWW192
FHADDING	@HTML	Z0	V	71	34	1	5/11/92	11:40:38	WWW192
FHADDING	HTML	Z1	V	71	34	1	5/11/92	11:40:38	WWW192
FHBENEFI	@HTML	Z0	V	75	49	1	5/10/92	23:46:32	WWW192
FHBENEFI	HTML	Z1	V	75	49	1	5/10/92	23:46:32	WWW192
FHDBASE	@HTML	Z0	V	79	49	1	5/10/92	23:54:47	WWW192
FHDBASE	HTML	Z1	V	79	49	1	5/10/92	23:54:47	WWW192
FHEDITOR	@HTML	Z0	V	71	72	1	5/11/92	11:43:10	WWW192
FHEDITOR	HTML	Z1	V	71	72	1	5/11/92	11:43:10	WWW192
FHFTP	@HTML	Z0	V	67	48	1	4/30/92	22:47:21	WWW192
FHFTP	HTML	Z1	V	67	48	1	4/30/92	22:47:21	WWW192
FHGET	@EXEC	Z0	V	73	292	2	5/11/92	11:52:50	WWW192
FHGET	EXEC	Z2	V	79	294	3	5/17/92	19:41:39	WWW192
FHIMPL	@HTML	Z0	V	68	17	1	5/11/92	0:08:03	WWW192
FHIMPL	HTML	Z1	V	68	17	1	5/11/92	0:08:03	WWW192
FHMAIN	@HTML	Z0	V	72	58	1	5/10/92	18:02:34	WWW192
FHMAIN	HTML	Z1	V	72	57	1	5/17/92	19:15:59	WWW192
FHNARROW	@HTML	Z0	V	70	29	1	5/11/92	0:07:53	WWW192
FHNARROW	HTML	Z1	V	70	23	1	5/17/92	19:20:28	WWW192
FHREF1	@HTML	Z0	V	67	8	1	5/11/92	0:07:58	WWW192
FHREF1	HTML	Z1	V	67	8	1	5/11/92	0:07:58	WWW192
FHSCRI	@HTML	Z0	V	72	24	1	5/10/92	19:01:45	WWW192
FHSCRI	HTML	Z1	V	72	24	1	5/10/92	19:01:45	WWW192
FHSEARCH	@EXEC	Z0	V	65	75	1	5/10/92	17:53:07	WWW192
FHSEARCH	EXEC	Z1	V	65	75	1	5/17/92	19:02:07	WWW192
FHSPIRES	@HTML	Z0	V	70	38	1	5/11/92	0:23:08	WWW192
FHSPIRES	HTML	Z1	V	70	33	1	5/17/92	19:19:19	WWW192
FHSUBJS	@HTML	Z0	V	69	75	1	5/07/92	16:39:28	WWW192
FHSUBJS	HTML	Z1	V	69	71	1	5/17/92	19:21:35	WWW192
FSEARCH	@EXEC	Z0	V	72	70	1	4/30/92	14:20:39	WWW192
FSEARCH	EXEC	Z1	V	72	79	1	5/10/92	11:33:24	WWW192
FSEARCH	1@EXEC	Z0	V	72	70	1	4/30/92	14:20:39	WWW192
FSEARCH	2@EXEC	Z0	V	69	63	1	3/18/92	16:01:08	WWW192
HEP	@HTML	Z0	V	73	9	1	3/09/92	11:36:45	WWW192
HEP	HELP	Z1	V	71	27	1	3/06/92	15:47:24	WWW192
HEP	HTML	Z1	V	78	9	1	4/30/92	14:17:23	WWW192
HEP	INDEX	Z1	V	43	12	1	2/27/92	13:26:11	WWW192
HLMAIN	@HTML	Z0	V	78	55	1	5/11/92	11:09:02	WWW192
HLMAIN	HTML	Z1	V	78	51	1	5/17/92	19:22:33	WWW192
HLSTEER	@HTML	Z0	V	65	34	1	5/11/92	10:38:45	WWW192
HLSTEER	HTML	Z1	V	65	34	1	5/11/92	10:38:45	WWW192
HTDAEMON	MODULE	Z1	V	65535	5	32	12/05/91	16:03:14	WWW192
RUN	EXEC	Z1	V	74	21	1	9/19/91	14:19:57	WWW192
RUNDAEMO	@EXEC	Z0	V	65	21	1	4/30/92	14:25:40	WWW192
RUNDAEMO	EXEC	Z1	V	65	21	1	4/30/92	14:25:40	WWW192

Crane addr' STORIES'

RUNDAEMO	1@EXEC	Z0	V	33	5	1	11/06/91	17:03:09 WWW192
SPIRES	@HTML	Z0	V	74	9	1	3/10/92	10:41:55 WWW192
SPIRES	HTML	Z1	V	78	9	1	4/30/92	14:17:45 WWW192
SPIRES	INDEX	Z1	V	43	12	1	12/12/91	15:59:13 WWW192
STORES	@HTML	Z0	V	76	10	1	3/09/92	11:36:54 WWW192
STORES	HELP	Z1	F	80	267	6	3/05/92	10:43:26 WWW192
STORES	HTML	Z1	V	81	10	1	4/30/92	14:18:03 WWW192
STORES	INDEX	Z1	F	80	10	1	3/04/92	15:51:24 WWW192
WISH	LIST	Z1	F	80	16	1	5/28/92	11:30:44 WWW192
WWW	FILES	Z1	F	80	8	1	4/30/92	14:21:19 WWW192
WWW	HISTORY	Z6	V	79	114	2	5/28/92	16:29:44 WWW192
WWW	INST$VAR	Z2	V	18	6	1	4/29/92	17:38:57 WWW192
WWW	LASTNEWS	Z2	V	26	1	1	5/14/85	11:29:18 WWW192
WWW	NEWSLIST	Z2	V	71	2	1	4/23/86	14:02:17 WWW192
WWW	OWNERS	Z2	V	27	24	1	5/28/92	11:20:12 WWW192
WWW	STAFF	Z1	F	80	6	1	4/29/92	13:14:09 WWW192

```
** RECOVER SPICELL 192 to TDISK **
RESTORING WWW
DATA DUMPED   01/08/92 AT 01.02.10  GMT FROM WWW    RESTORED TO SCRATCH
FILENAME FILETYPE FM FORMAT LRECL      RECS     BLOCKS   DATE     TIME     LABEL
A        C        Z1 F         80         5          1 10/16/91 18:13:27 WWW
A        ERRS     Z1 V         49         1          1 10/16/91 18:15:35 WWW
A        EXEC     Z1 V         68        10          1 11/01/91 15:13:32 WWW
A        TEXT     Z1 F         80         5          1 10/16/91 18:15:35 WWW
BINLIST  HTML     Z1 V         73        13          1 12/06/91 21:11:53 WWW
BINLIST  INDEX    Z1 F         80         8          1 12/06/91 21:00:22 WWW
BSDTYPES H        Z1 V         70       120          1 10/15/91 18:01:30 WWW
CC_ALL   EXEC     Z1 V         81        13          1 10/14/91 15:29:29 WWW
CC2      EXEC     Z1 V         58         8          1 10/30/91 14:18:05 WWW
CMOD     EXEC     Z2 V         68       203          2 11/04/91 11:35:12 WWW
CMS      PRESERVE Z1 V         65        30          1 11/06/91 17:06:02 WWW
CPOBJ    RMAP     Z1 F         80         3          1 10/16/91 18:46:59 WWW
DEFAULT  HTML     Z1 V         81        13          1 12/06/91 21:15:48 WWW
DLOAD    EXEC     Z1 V         64         4          1 11/01/91 15:15:36 WWW
EDCXV    C        Z1 F         80         5          1 10/16/91 18:08:43 WWW
EDCXV    TEXT     Z1 F         80         9          1 12/05/91 16:03:06 WWW
FEARCH   ORIG     Z1 V         76       125          2 11/06/91 12:04:44 WWW
FGET     EXEC     Z2 V         60        16          1 12/06/91 20:45:45 WWW
FGET     ORIG     Z2 V         78       132          2 11/06/91 17:08:04 WWW
FINDGATE C        Z1 V         78       245          2 11/06/91 17:05:49 WWW
FINDGATE C2       Z1 V         78       245          2 10/14/91 15:28:41 WWW
FINDGATE ORIG     Z1 V         78       245          2 11/04/91 11:30:12 WWW - TBL orig code
FINDGATE SLACVM   Z1 V         78       245          2 11/06/91 13:57:17 WWW
FINDGATE TEXT     Z1 F         80       113          3 12/05/91 16:02:49 WWW
FSEARCH  EXEC     Z1 V         40         7          1 12/09/91 18:10:32 WWW
FSEARCH  SAVE     Z1 V         76       123          2 11/06/91 14:06:50 WWW
HTDAEMON C        Z1 V         85       639          5 10/15/91 18:10:19 WWW
HTDAEMON C2       Z1 V         85       639          5 10/15/91 15:45:38 WWW
HTDAEMON MODULE   Z1 V      65535         5         32 12/05/91 16:03:14 WWW
HTDAEMON TEXT     Z1 F         80       183          4 11/05/91 14:37:48 WWW
HTTCP    C        Z1 V         79       282          2 10/16/91 17:04:54 WWW
HTTCP    H        Z1 V         78        94          1 10/14/91 15:47:38 WWW
HTTCP    TEXT     Z1 F         80        77          2 11/05/91 14:38:12 WWW
HTUTILS  H        Z1 V         79        85          1 10/14/91 15:47:21 WWW
LOAD     MAP      Z1 F        100         2          1 12/05/91 15:55:46 WWW
MAKE     EXEC     Z1 V         51         6          1  9/19/91 14:06:07 WWW
MYCC     EXEC     Z1 V         63        51          1 10/16/91 18:28:29 WWW
NICFOUN1 EXEC     Z2 V         78       125          2  9/24/91 11:01:53 WWW
Q        Q        Z1 F         80        52          2 10/16/91 17:22:58 WWW
RUN      EXEC     Z1 V         74        21          1  9/19/91 14:19:57 WWW
RUNDAEMO EXEC     Z1 V         33         5          1 11/06/91 17:03:09 WWW - port 3784
SETUP    EXEC     Z1 V         62         4          1 11/05/91 14:57:21 WWW
SPIRES   HTML     Z1 V         74         9          1 12/09/91 17:20:32 WWW
SPIRES   INDEX    Z1 V         43        12          1 12/12/91 15:59:13 WWW
STRING   H        Z2 F         80        75          2 10/16/91 17:07:43 WWW
TCP      H        Z1 V         91       180          2 10/14/91 15:47:28 WWW
TERRYH   TYH239   Z1 F        132        87          3 11/14/91 18:43:33 WWW
-----> Batch return code = 0.

-----> System cleanup $BCLEAN.

*************************************************************************
*                                                                       *
* End execution of LXA109 for ADDIS at 16:47:31 on 19/11/96.            *
```

```
/* REXX please    - Run Daemon */
address command
Say 'Access the disks for TCP/IP '
'EXEC GIME MAINT  5E5          (MODE -P'
'EXEC GIME TCPMNT 2B0 * READIT (MODE -P'  /* TCP/IP source              */
'EXEC GIME TCPMNT 410 * DACUR  (MODE -P'  /* TCP/IP base                */
'EXEC GIME TCPMNT 412 * DACUR  (MODE -P'  /* TCP/IP text                */
'EXEC GIME TCPMNT 441 * DACUR  (MODE -P'  /* TCP/IP last updates fixes  */

Say 'Indicate to CMS which libraries to search'

'GLOBAL TXTLIB EDCBASE IBMLIB CMSLIB'

Say 'Access the disk with all the indices of XFIND'

'EXEC DROP Z'
'EXEC GIME TESTSERV 201 Z'

Say 'Start the DAEMON'

'HTDAEMON -v -a *:8000 -l findlog'
```

Terry's 193
This is dated 9/19/91
Cern experiments w/ web server
by Terry Hung

Terry H2

waddis/terryh2

From terryh Wed Nov 20 11:23:34 1996
Subject: old WWW mail - 2/3 (fwd)
To: addis
Date: Wed, 20 Nov 1996 11:23:34 -0800 (PST)
Reply-To: terryh@slac.stanford.edu
X-Mailer: ELM [version 2.4 PL25]
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Length: 9346
Status: O

Forwarded message:
>From terryh Mon Sep 9 16:49:01 1996
Subject: old WWW mail - 2/3
To: cottrell
Date: Mon, 9 Sep 1996 16:49:01 -0700 (PDT)
Reply-To: terryh@unixhub.slac.stanford.edu
X-Mailer: ELM [version 2.4 PL25]
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Length: 8962

Les,

The following is part two of three, it is the mail from Tim. You have a copy of this part, I added index to it.

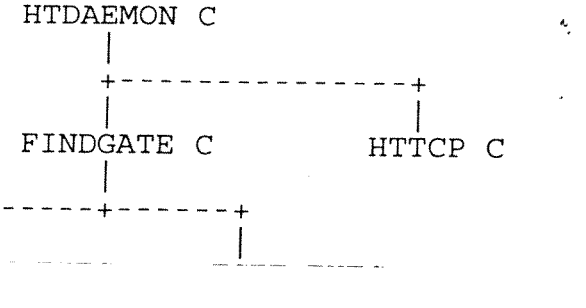
Index:
1. 9/26/91 Re: WWW server at SLAC
2. 10/15/91 WWW server at SLAC: Waterloo C
3. 10/16/91 Re: WWW server at SLAC: Waterloo C
4. 11/01/91 Re: HTDaemon on slacvm (exact date unknown, but prior to 11/1/91)

==========

Return-Path: <timbl@nxoc01.CERN.CH>
Date: Thu, 26 Sep 91 12:52:28 GMT+0100
From: timbl@nxoc01.CERN.CH (Tim Berners-Lee)
Subject: Re: WWW server at SLAC
To: terryh@UNIXHUB.slac.stanford.edu (Terry Hung)
X-Envelope-To: terryh@UNIXHUB.SLAC.STANFORD.EDU

Terry,

-The VM code uses the same HTDaemon.c main program as the normal daemon.
I'll mail you a the latest copy of that.
-There is then a module called FINDGate.c which interfaces to the REXX execs.



-The REXX execs are very specific to the CERN FIND system of Bernd Pollermann. He wrote them. You are welcome to them if you like. If you have a CERNVM account then

GIME SERVUS03 191

-I've mailed you FINDGate.c (the latest copy) separately.

-When compiling things under VM, I use an exec (CC2 EXEC also on SERVUS03 191) which defines symbols such as SHORT_NAMES, VM and DEBUG.
-Short names is because externals can only be 8 characters,
-VM is to select the include files etc for CERNVM in tcp.h and anywhere else that machine-specific code is needed,
-and DEBUG includes code to print a trace, which in practice we always do.
-[The trace is turned on only with a -v option at run time.]

-Other useful execs which you may want to look at or copy are SETUP EXEC on TIM 191 which gets the TCP disks
-you will probably want a totally different set on your systems
-I have no idea how similar SLACVM and CERNVM are and know very little about either
-and also DLOAD EXEC on SERVUS03 which created the module. <-

-The module HTTCP.c is in the regular distribution as well as on SERVUS03 191.

The line mode browser will compile for VM so long as you define the symbols to select the correct behaviour.
-I think I loaded it with WLOAD EXEC on TIM 191.
-As I never found a way to clear the screen from C, it is not so slick to use as one has to alternately press RETURN for more and the fuinction key for "MORE..." on VM.

-If you can't log onto CERNVM and pick the stuff off, let me know and we'll find some other way. I hope this helps. Keep up the good work, let me know of any snags.

Tim

==========

Return-Path: <timbl@nxoc01.CERN.CH>
Date: Tue, 15 Oct 91 11:10:27 GMT+0100
From: timbl@nxoc01.CERN.CH (Tim Berners-Lee)
Subject: WWW server at SLAC: Waterloo C
To: terryh@UNIXHUB.slac.stanford.edu
X-Envelope-To: terryh@UNIXHUB.SLAC.STANFORD.EDU

Terry,

-It is only since CC and the latest IBM TCP/IP have been available that porting anything to the IBM has been feasable without a lot of hassle.
-The networking people here are all switching.
-IBM have solved, for example by providing "manifest.h", the problems of making unix-like programs compile and load.
-They have to define macros for <-
example to convert long names (gethostbyname, gethostbyaddr) into

-If it is possible for you to either compile in the CERNVM environment and then take the module, or to pick up the CERN-like environment at SLAC, then I think it would save you a lot of trouble.

-I'm afraid I don't know how much of the improvements came with CC and how many with TCP/IP.

-Looking at your error messages, it seems that you have include files which are not suitable for your compiler -- like they are CC-oriented include files, and CW doesn't accept #pragma. This would be something to complain to your system people about.

-Once CW has missed an include file, then any error messages afterwards probably simply stem from missing definitions which should have been found in that include file.

-Don't worry about "SHORT_NAMES changed" error: tcp.h redefines SHORT_NAMES in the case of VM as "" when you have probably predefined it as "1". The difference doesn't matter, so long as it is defined.

-Does the TCP/IP software you have on VM match that on CERNVM? You could check by running our daemon with -v option (Its HTDAEMON MODULE on SERVUS02 191) and seeing whether it communicates with the TCP machine at all. <-
-It will need a disk linked with a valid "TCPIP DATA" file or somesuch, in order to read which machine it should talk to for TCP/IP.

-If the TCP/IP implementations come from the same place, then you can always compile things here and ship them across. (not much fun!). If they aren't, perhaps you should find a networking guru who has used your TCP/IP and ask him what he thinks of it.

-(By the way, our TCP/IP seems to be on disk CPMNT 582 nowadays)

-If you find some include files, and have only a few problems left with the rest, then mail me with those. I can also talk to our experts here like George Smyris.

Tim

==========

Return-Path: <timbl@nxoc01.CERN.CH>
Date: Wed, 16 Oct 91 16:08:38 GMT+0100
From: timbl@nxoc01.CERN.CH (Tim Berners-Lee)
Subject: Re: WWW server at SLAC: Waterloo C
To: terryh@UNIXHUB.slac.stanford.edu
X-Envelope-To: terryh@UNIXHUB.SLAC.STANFORD.EDU

-index() is not ANSI, its unix, I used it by mistake, should be strchr(). Fixed in latest version.

-LogFile was my name, logfile is used in some WAIS code I link with sometimes, so I shall switch to logfile throughout.

> ERROR EDC0111 HTTCP C A1:194 Identifier sin_port must
> be a member of the struct or union

-HTTCP.c compiles on NeXT, sun-4, apollo-m68k, vax-ultrix, etc in the current version.
-It may be that you have a version which is slightly older, but things like sockaddr_in should be defined OK by the tcp.h file which caters for virtually everything.
-I suggest you stick with your fix until you get a more recent version, and if you still have a problem, we'll look at it.
-When you say it didn't compile under unix, which unix?

> DMSLIO201W The following names are undefined:
> EBCDICTO ASCIITOE

-These are the addresses of two arrays which coinvert characters from ebcdic to ASCII and back.
-They may be CERN special, but they work on MVS at DESY too.

> WRITE INET@ADD GTHSTBYN SOCKET BIND LISTEN READ
> SELECT ACCEPT GETPEERN INET@NTA SOCK@CLO GETHNAME

-This is the entire TCP/IP "socket" library! Sounds as though you need another disk or a another GLOBAL TXTLIB item and it will fix the lot.

> INDEX

-Use strchr() instead as above. I thought I had fixed that. It is fixed in the latest HTTCP.h.

==========

Return-Path: <TERRYH@SLACVM.slac.stanford.edu>
Date: Fri, 01 Nov 1991 14:27 -0800 (PST)
From: TERRYH@SLACVM.slac.stanford.edu
Subject: www
To: TERRYH@UNIXHUB.slac.stanford.edu
X-Envelope-To: TERRYH@UNIXHUB.SLAC.STANFORD.EDU

From: timbl@nxoc01.CERN.CH (Tim Berners-Lee)
Subject: Re: HTDaemon on slacvm
To: terryh@UNIXHUB.SLAC.STANFORD.EDU (Terry Hung)
Message-id: <9111011322.AA10441@ nxoc01.cern.ch >
X-Envelope-to: terryh@GREENJAY.SLAC.Stanford.EDU

-Well done! Now you have got over those problems, the rest should be easier (and more rewarding!)

-FGET and FSEARCH are both exec files which return data as lines on the CMS "stack".
-It is very important that under all circumstances they exit with a return code equal to the number of lines on the stack, ie
        exit queued()

-If there is an error they can either put an error message on the stack, or they can if desparate return something negative or

-(In the very latest vesrion of FINDGATE C which you don't have
probably but is on SERVUS02 191 on CERNVM
the C code also traps very large return codes which normally are
runtime crashes in the exec file.)

-You may want to modify FINDGATE C to make your own version.
-If you are happier programming in REXX than C, I would pass the whole
document address, search or not, across to an EXEC file.

-Otherwise, you could just hack the FGET and FSEARCH from SERVUS02 191
to produce in the short run a test file.

George Crane

-Run the daemon with the command

```
HYTDAEMON -v -a *:8000
```

The -v asked for debug information, the -a *:8000 tells it to listen
on port 8000.

Tim

--
Terry Hung (e-mail: terryh, ext: 3618)

--
Terry Hung (e-mail: terryh, ext: 3618)

From terryh Wed Nov 20 11:23:43 1996
Subject: old WWW mail - 3/3 (fwd)
To: addis
Date: Wed, 20 Nov 1996 11:23:43 -0800 (PST)
Reply-To: terryh@slac.stanford.edu
X-Mailer: ELM [version 2.4 PL25]
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Length: 2920
Status: O

Forwarded message:
>From terryh Mon Sep 9 16:53:43 1996
Subject: old WWW mail - 3/3
To: cottrell
Date: Mon, 9 Sep 1996 16:53:43 -0700 (PDT)
Reply-To: terryh@unixhub.slac.stanford.edu
X-Mailer: ELM [version 2.4 PL25]
MIME-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Length: 2536

Les,

The following is part three of three, it is the mail from Paul and Tim regard SLAC's WWW server. According to the second mail, SLAC's WWW server was up shortl before 12/13/91.

Index
1. 12/12/91 WWW
2. 12/13/91 WWW to SPIRES on SLACVM - Experimental

==========

Return-Path: <pfkeb@kaon.slac.stanford.edu>
Date: Thu, 12 Dec 91 18:16:52 PST
From: pfkeb@kaon.slac.stanford.edu (Paul Kunz)
Subject: WWW
To: BOEHEIM@slacvm.slac.stanford.edu, addis@slacvm.slac.stanford.edu
Cc: terryh@unixhub.slac.stanford.edu
X-Envelope-To: terryh@UNIXHUB.SLAC.STANFORD.EDU

VMid 'SPICELL' is running the WWW daemon. The PROFILE EXEC on SPICELL 191 has been setup correctly, I think. All the source for WWW is on SPICELL 192. I have not put the INSTALL EXEC on its 192 disk.

So I think you can put SPICELL in the autolog list of service VMs and we should be in business, at least for Tim Berners-Lee demos in San Antonio.

Louise, its up to you now to find someone to work on it for further enhancements, etc. I'll get back to my normal work.

==========

Return-Path: <timbl@nxoc01.cern.ch>
Date: Fri, 13 Dec 91 17:55:53 GMT+0100
From: timbl@nxoc01.cern.ch (Tim Berners-Lee)

Subject: WWW to SPIRES on SLACVM - Experimental
To: www-interest@cernvax.cern.ch, www-talk@cernvax.cern.ch
Cc: pfkeb@kaon.slac.stanford.edu (Paul Kunz)
X-Envelope-To: terryh@UNIXHUB.SLAC.STANFORD.EDU

There is an experimental W3 server for the SPIRES High energy Physics preprint database, thanks to Terry Hung, Paul Kunz and Louise Addis of SLAC. It's only j been put up, so don't expect perfection. With the w3 line mode browser, follow link to it from our home page, then type for example

K FIND AUTHOR KUNZ

the "FIND" is necessary at the moment, though it may change later.

- Tim

Paul Kunz wrote a few days ago:-

"The SLAC Library maintainer of SPIRES databases, Louise Addis, is absolutely delighted. She will ask for a permanent VM service machine and finish off the polishing. Things are really moving now."

"By the way, we certainly have the impression that accessing SPIRES from www a UNIX machine is faster than using a terminal logged into SLACVM. Even a real 3278 terminal is not as fast. Actually, accessing CERNVM FIND via www seems faster than logging into cernvm and doing the same command as well."

--
Terry Hung (e-mail: terryh, ext: 3618)

--
Terry Hung (e-mail: terryh, ext: 3618)

```
/* REXX please    - Run Daemon */
address command
Say 'Access the disks for TCP/IP '
'EXEC GIME MAINT  5E5          (MODE -P'
'EXEC GIME TCPMNT 2B0 * READIT (MODE -P'  /* TCP/IP source              */
'EXEC GIME TCPMNT 410 * DACUR  (MODE -P'  /* TCP/IP base                */
'EXEC GIME TCPMNT 412 * DACUR  (MODE -P'  /* TCP/IP text                */
'EXEC GIME TCPMNT 441 * DACUR  (MODE -P'  /* TCP/IP last updates fixes  */

Say 'Indicate to CMS which libraries to search'

'GLOBAL TXTLIB EDCBASE IBMLIB CMSLIB'

Say 'Access the disk with all the indices of XFIND'

'EXEC DROP Z'
'EXEC GIME TESTSERV 201 Z'

Say 'Start the DAEMON'

'HTDAEMON -v -a *:8000 -l findlog'
```

Terry's 193
This is dated 9/19/91
First experiments w/ web server

S L A C M E M O R A N D U M 21 Sep 1994

To: Appendix to WWW Wizards report to C. Dickens

From: WWW Wizards Committee

Subject: Brief background info on Web at SLAC

HISTORY:

1. The World-Wide-Web (WWW) was developed at CERN by a group led by Tim Berners-Lee. Paul Kunz spotted its potential for providing easy access to the SPIRES databases during one of his trips to CERN in 1991. He and Terry Hung immediately installed a browser and server on a NeXT machine and also on SLACVM and called it to the attention of the library. Subsequently George Crane wrote a WWW interface to SPIRES which was quickly added to the then CERN front page. This early link to SPIRES was influential in quickly increasing the use of the Web in the particle physics community. (Currently, searches to SPIRES-HEP number over 70,000/month and is still the most used portion of the Web at SLAC.)

2. A ad-hoc group calling themselves the WWWizards started meeting late in 1991 under the sponsorship of the library and more informally, SCS and later SLD. The Wizards have been a totally volunteer effort and have considered themselves a 'working group' rather than a committee, meeting fairly regularly each fortnight.

MILESTONES - several events were important not only to the Web at SLAC but in laying the foundations for the explosion of Web use which we have seen in the last year.

1. Tony Johnson of SLD developed a full-screen X browser which he called MidasWWW. (The first X browser had been a very handsome but buggy 'Viola' whose developer, Pei, had gone on to other projects.) MidasWWW could display all sorts of graphics, including compressed Postscript. This opened the way for the SLAC Library to start providing postscript versions of the electronic bulletin board papers actually linked to records in the SPIRES-HEP database. (As of Sept 1994, over 9000 full-text preprints were available to the particle physics community via WWW-SPIRES.)

2. Tonyj received a development grant from the ill-fated Texas Research Comm. for further development of MidasWWW in connection with SSCL experiments.

The development of XMosaic followed in the footsteps of MidasWWW incorporated many of Tonyj's innovative ideas into the family of Mosaic browsers supported by the National Center for Supercomputing at Urbana.

3. Addis, Tonyj, and others visited Paul Ginsparg at LANL, the developer of the highly successful physics preprint bulletin boards (electronic preprint archives) and introduced him to the potential of the Web as a means of providing access to the xxx.lanl.gov server. Tonyj installed MidasWWW on a Sun workstation in Ginsparg's office and subsequently, the Web server at XXX has become one of the busiest in the Particle Physics Community.

4. Bebo White put in place servers on other platforms, installed a Gopher server for linkage to WWW, and in so far as time permitted, started to maintain a number of the pieces of the Web at SLAC. Bebo also was invited to CERN for a month to work directly with the Web group there.

5. Winters put in place an 'official' SLAC home page (in reality a complex of pages) and a mechanism for handling the exacting process of organizing, maintaining and changing this material in an orderly, timely fashion. Since that time, almost 300 significant changes have been made to the home page in response to expressed needs of the SLAC community. Over 685 hypertext links must be maintained to insure the integrity of the home page complex.

6. Several Web Wizards give talks and demonstrations (Addis, Johnson, Kreitz, White, and Winters) to various conferences as well as SLAC groups Currently, talks about the SLAC/SPIRES/WWW full text preprint system are scheduled for Am. Chem Soc., Am. Phys. Soc. and Astron.Astrophys. Meetings in the coming months.

7. The Committee on Future Computing at SLAC suggests WWW as a lingua franca for tying together the SLAC community on diverse computing platforms.

PRESENT STATE OF THE WEB AT SLAC:

At this time, Sept 1994, the Web looks as follows at SLAC:

1. SERVERS -At least five and probably more 'servers' (needed by information providers only) are running at SLAC on various platforms:

   a. SLACVM - The original CERN VM server, now an antique, is still the main server for the SLAC 'Home Page' and by necessity, all the SPIRES searching via WWW.

Statistics: currently averages 6300 requests/day of which about 50% are direct SPIRES searches.

Comments: This server was the source of pride in the early days of Web when SLAC was a leader and innovator in providing various services. Now, this server is an embarrassment since it is outdated code which doesn't work with many of the standard browsers (i.e. Mac-Mosaic). The moratorium on SLACVM development has meant that we have fallen further and further behind other facilities. Many places provide links to our SPIRES-HEP searching and several have started issuing warnings to their users about the out-datedness of this server, with instructions for special steps which users must take to successfully use it.

b. Unix - Modern servers are running on several Unix machines.

Statistics: None

c. VMS - SLD runs a server on SLACVX to handle their special needs for shift scheduling and other projects.

Statistics: ?

d. NEXT - Two CERN servers (one latest version) run on LIBNEXT in the Reason cluster (maintained by George Irwin). The intention is to run the latest CERN server at both ports 80 and 5080 to serve the full-text postscript preprint files.

Statistics: ~650 document requests/day

a. Browsers:

FUTURES:

Areas needing attention:

1. Technical - most urgent. support issues
2. Home page issues
   Policy issues, Winters may want advisory committee???
   Need glitzy version of page (Rene Donaldson?) for 'public' access
3. Security and privacy
4. User education, i.e. WWW User group

WEB Summary - addn 191)

S L A C M E M O R A N D U M 21 Sep 1994

To: Appendix to WWW Wizards report to C. Dickens

From: WWW Wizards Committee (Addis)

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At this time, Sept 1994, the Web looks as follows at SLAC:

1. SERVERS -At least five and probably more 'servers' (needed by information providers only) are running at SLAC on various platforms:

   a. SLACVM - The original CERN VM server, now an antique, is still the main server for the SLAC 'Home Page' and by necessity, all the SPIRES searching via WWW.

Statistics: currently averages 6300 requests/day of which about 50% are direct SPIRES searches.

Comments: This server was the source of pride in the early days of Web when SLAC was a leader and innovator in providing various services. Now, this server is an embarrassment since it is outdated code which doesn't work with many of the standard browsers (i.e. Mac-Mosaic). The moratorium on SLACVM development has meant that we have fallen further and further behind other facilities. Many places provide links to our SPIRES-HEP searching and several have started issuing warnings to their users about the out-datedness of this server, with instructions for special steps which users must take to successfully use it.

b. Unix - Modern servers are running on several Unix machines.

Statistics: None

c. VMS - SLD runs a server on SLACVX to handle their special needs for shift scheduling and other projects.

Statistics: ?

d. NEXT - Two CERN servers (one latest version) run on LIBNEXT in the Reason cluster (maintained by George Irwin). The intention is to run the latest CERN server at both ports 80 and 5080 to serve the full-text postscript preprint files.

Statistics: ~650 document requests/day

a. Browsers:

FUTURES:

Areas needing attention:

1. Technical - most urgent. support issues

2. Home page issues
   Policy issues, Winters may want advisory committee???
   Need glitzy version of page (Rene Donaldson?) for 'public' access

3. Security and privacy

4. User education, i.e. WWW User group

Brief and Biased History of Preprint and Database Activities at the SLAC Library, 1962-1994, by L. Addis (with a few updates in Jan 1997)

History - lala/addi.

1962

SLAC Library begins with the charge from Director W.K.H. Panofsky to actively and promptly acquire preprints in high energy physics, catalog preprints fully (and promptly), and include every author no matter how many there are. Library starts with several boxes of CERN reports donated by kindly physicists.

1969-70

Computers become more powerful and development begins at Stanford University of what eventually becomes the SPIRES DBMS with the SLAC Library as a primary test site.

1969

The APS Division of Particles and Fields and the AEC sponsor community-wide distribution of SLAC's weekly list of new preprints, Preprints in Particles and Fields. (PPF) Hundreds of physicists pay an annual subscription fee to get PPF weekly by airmail. Those in faraway places often complain that they can't actually get copies of the preprints on the list or that they come very late (PPF continues hardcopy publication until Fall 1993.)

Dubious and hostile journal editors are mollified by a PPF section called Anti-preprints, which lists journal references for recently published preprints.

SLAC Library systematically looks for publication information for preprints, discards published preprints, annotates its card catalog with journal references.

1970's

We are told that full-text databases are just around the corner and that soon we will not need books.

1974

The SPIRES-HEP (High-Energy-Physics) database begins. Best estimates predict a steady state not larger than 5000 bibliographic records.

SLAC now annotates the bibliographic records in the HEP database with publication information (as well as its card catalog) and continues to trash dead preprints.

The SLAC and DESY Libraries team up to jointly create the HEP database (a collaboration which continues to this day). DESY contributes physicist-assigned TOPIC indexing and bibliographic records for articles which were never preprinted

1975

An average of 70 preprints/week arrive in the SLAC Library.

1979

Donald Knuth at Stanford publishes a description of his new text formatting system called TeX. It provides a way to get high quality mathematical text

using simple ASCII characters as input.

early 80's

More and more physicists ask to continue their computer accounts when they leave SLAC so that they can consult SPIRES from their new home institutions.

1980

An average of 97 preprints/week arrive in the SLAC Library

1982

SLAC Library becomes first library at Stanford to throw out its card catalog.

mid 80's

SLAC computing moves to an IBM VM/CMS system which is hospitable to creation of 'servers.' George Crane of SLAC's Computing Group develops ''Remote SPIRES,' and the QSPIRES server starts up on Bitnet.

Now it is possible to query the SPIRES-HEP database without actually having an account on the SLAC computer, by sending messages or e-mail to the QSPIRES server. At its peak, QSPIRES is responding to inquiries from 662 nodes in 44 countries and has almost 5000 registered non-SLAC users.'

1985

An average of 116 preprints/week arrive in the SLAC Library.

A total of 11,757 records are added to SPIRES-HEP (includes preprints, reports, unpreprinted journal articles, theses, etc.)

1980's

Everyone is talking about the 'paperless' office as they acquire new higher speed printers..

Most particle physics graduate students write their theses using TeX and though everyone complains about having to learn the notation, TeX is widely used in the particle physics community.

1990

An average of 143 preprints/week arrive in the SLAC Library.

17,938 records are added to SPIRES-HEP. The database passes the 200,000 record mark.

Aug 1991

The revolution begins - Part 1:
Paul Ginsparg, a theoretical physicist, starts the first e-print archive at hep-th@xxx.lanl.gov and invites fellow string theorists to deposit the TeX source for their new preprints by e-mail. New preprints are announced and distributed by listserv. Hep-th is successful beyond the wildest of dreams owing in large measure to the talents of Ginsparg who combines his many good ideas with actual computer smarts. It is now possible for any physicist

on the Internet to keep up with the preprint literature.

An excellent article about the e-print archive development and futures is:, First Steps Towards Electonic Research Communication by P. Ginsparg, Computers in Physics: 3, 390 (Jul/Aug 1994)

Aug 1991

SLAC Library hastens to add a field for 'bulletin board' number to the SPIRES-HEP database (for a long time the e-print archives are called 'bulletin boards'). The first number is HEP-TH 9108001 based on the year and month and unique series number. A TeX expert is hired parttime to obtain papers from bulletin boards, TeX them and pass the hard copy along to the library catalogers for entry in SPIRES-HEP.

Late 1991

The revolution continues, Part 2.

Paul Kunz, a SLAC physicist, brings word of the World-Wide-Web development by Tim Berners-Lee and a group at CERN, our sister laboratory in Geneva, Switzerland. Kunz immediately sees its potential as a way to streamline access to the SPIRES-HEP database.

Dec 12,1991

The first U.S. WWW server is established at SLAC to provide access the the SPIRES HEP database. G.Crane provides an interface between the Web server and SPIRES.

1992

As we learn how to use the features of WWW, we start linking bulletin board preprints to their TeX source on the servers at Los Alamos. This isn't really full-text but it's a lot better than nothing. SPIRES creates the html dynamically and presents it to the W3 server.

More bulletin boards appear. astro-ph, hep-ph, hep-lat, gr-qc, nucl-th.and the TeX burden increases.

QSPIRES users are encouraged to change to WWW and some do..

1992

Tony Johnson, a physicist with the SLAC-SLD experiment, releases the MidasWWW browser for X. It allows viewing of postscript files on the Web and even handles compressed postscript.

Spring 1993

The SLAC Library acquires a NeXT and a 1.3 gigabyte disk and starts to take the 'next' step by converting the TeX DVI files to postscript using the DVIPS program on Unix. The files are then compressed and stored on a WWW server disk. Figures are requested by e-mail from authors, faxed to our NextFAX, converted to EPS format and posted with the basic text on the SLAC postscript server (preprint.slac.stanford.edu).

SPIRES-HEP can now be searched using the MidasWWW browser on an X-terminal and the genuine full-text complete with equations and often figures

can be displayed or printed.

June 1993

The full text service is made public.

1993

A new X browser called Mosaic is released by NCSA. It has many of the features of MidasWWW and the full support of a large organization. With the availability of Mosaic, Web use starts to gain momentum.

Aug 1993

SPIRES-HEP now receives about 38,000 queries/month. Of these, 15,000 are thru WWW.

Dec 1993

SPIRES-HEP averages 178 new preprints each week and more than 20,000 new records are added in 1993 (remember that HEP isn't just preprints!).

Jan 1994

Paul Mende of Brown University gives us a present of his automatic texing program and installs it for us on our own system. With some tuning and additional scripts, the whole process of ftping tex source from various e-print archives and trying to tex them and update the tracking and abstracts database is automated. Eventually it handles about 55% of all the e-print papers completely. We still, however, must carefully check each one for viewability and printability and manually deal with the remaining 45%..

DESY and CERN give us a hand with TeX to postscript, but with the advent of automatic processing distributed texing becomes less effective.

1994

Additional features are added to the SPIRES-HEP service thru WWW. It is now possible to see who has cited any of an author's papers and go directly to the full-text if the citing paper appeared on a bulletin board (now called the politically correct 'e-print archives').

1994

Ginsparg at LANL starts to link to the SLAC postscript server in order to supply .ps.Z files as well as the TeX source. Others start setting up shadow servers to have the postscript versions closer at hand. (Networks are the limiting factor. Not everyone has fast enough connections yet to make postscript viewing feasible).

1994

Use of WWW explodes to the world beyond physics.

Apr 1994

An e-print archive for experimental particle physics (hep-ex) is started.

Sep 1994

SPIRES -HEP averages 187 new preprints/week, more than 65% as e-prints.

The total size of the database now reaches 292,000 records. (Remember that HEP isn't just preprints.)

Sep. 1994

SPIRES-HEP is now getting 83,000 queries/month, 65,000 of them thru WWW.

Sep 1994

Hrvoje Galic of the SLAC Library adds 3000+ links to non-eprint papers stored on servers at the various labs. He also starts adding links to the Nuclear Physics (journal) server provided by Elsevier and accessible only to organizations whose libraries are subscribers. We hope fervently for more such journal links in the future as other publishers join in. We also hope for something better than TeX source from publishers in the future.

early 1995

The total size of the database passes 300,000 records! Bob Gex has probably proofed almost every one of those records during his years as cataloger extraordinaire.

Mar 1995

SPIRES-HEP is now getting more than 100,000 queries/month, mostly thru WWW. SLAC and DESY libraries together are processing between 600 and 700 TeX e-prints/month.

Ginsparg and his group start work on a more comprehensive auto-TeXing program and establishing better submission standards for authors.

1996

At SLAC, Harv Galic establishes links with Phys.Rev.D and starts receiving all Phys.Rev.D papers before publication so that they will be 100% represented in SPIRES-HEP.

Dec 1996

Total size of SPIRES-HEP database exceeds 338,000 records. Of the almost 20,000 records added in 1996, 10,880 are available on the internet as full text documents via WWW.

All TeX processing is now done at the e-print archive machine. E-prints are now available in both postscript and PDF formats.

SPIRES-HEP now gets more than 200,000 queries/month via WWW.

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PEER-REVIEWED JOURNAL ON THE INTERNET

FM Interviews

Louise Addis

I was so excited that I almost dropped the book.

I was reading *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor,* by Tim Berners-Lee. The paragraph that caused such a reaction described how Paul Kunz, a California physicist, had returned from a visit to CERN (Conseil Européen pour la Recherche Nucléaire; now officially named the Organisation européenne pour la recherche nucléaire or European Organization for Nuclear Research) in Switzerland where he had seen an interesting technology developed by Berners-Lee. Kunz came home to the Stanford Linear Accelerator Center (SLAC) and told Louise Addis, a SLAC librarian, about this new invention, the World Wide Web.

Berners-Lee states that Louise saw the Web "as a godsend - a way to make SLAC's substantial internal catalogue of online documents available to physicists worldwide." [1] He further states that "under Louise's encouragement SLAC started the first Web server outside of Europe." [2]

The first Web server created in the United States - set up anywhere outside of its birthplace at CERN - was established at the encouragement of a librarian!

As someone working in both the Web world and the library community, I decided then that I had to meet, or at least talk to, Louise Addis. I knew that I could learn something from the librarian who saw the potential in this revolutionary technology before the majority of the world had even heard of the Internet.

I tracked Louise down using the Web (of course!) and e-mail. When we first spoke on the phone, I told her how excited I was to meet the person who was responsible for setting up the first Web server in the U.S. Louise laughed and disclaimed total responsibility for bringing the Web to America. She told me about her colleagues, Paul Kunz and Tony Johnson and others, who were critical to the launch of the first Web server at SLAC. At one point in the conversation, she noted that the history of the Web technology is rather like *Rashomon,* Akira Kurosawa's 1951 movie in which the same story is told from widely diverging perspectives. It appears to be true that there are a number of stories about how the Web came to America. This is one of them. - Melissa Henderson.

First Monday (FM): Could you first tell me a bit about your academic background? Where did you study for your undergraduate degree?

Louise Addis (LA): I studied International Relations at Stanford University. I always had an interest in the sciences, however.

FM: And from Stanford?

LA: I initially went to work for a publisher of the "Dick and Jane series" in the claims department and as a sales correspondent. I then moved to the Stanford Research Institute Radio Science Lab where part of my job was handling classified documents. I was thinking about going to library school when a colleague encouraged me to apply for a position in the soon-to-be-opened library for Project M.

FM: Project M?

LA: "Project Monster" now known as the Stanford Linear Accelerator Center. At that time, it was still on the drawing board and had no funding. We started our library in a warehouse on the Stanford campus. It was the hottest place on campus; they ran water on roof to make it more bearable!

FM: How long were you at SLAC?

LA: From before the beginning! It was very exciting to build a library. I started as the assistant to the librarian in 1962 and retired in 1994 as Associate Head Librarian. Since retirement, I have continued to work off and on for the SPIRES-HEP database project at SLAC and most recently on Y2K conversion.

FM: What were you working on in your early years at SLAC?

LA: From about 1969 on, I was working with the SPIRES-HEP database of particle physics documents. SPIRES (initially, Stanford Physics Information Retrieval System, then Stanford Public Information Retrieval System) database management system was the product of brilliant programmers at Stanford. SLAC was a guinea pig for SPIRES, which was originally designed for an IBM mainframe environment. SLAC sponsored development of the Unix version, which is now in use.

FM: Did anything in your education or background prepare you for the higher level computing work you were doing with SPIRES-HEP or the Web?

LA: I got into programming and database development by picking up information on my own. If I needed to know something, I asked someone to show me how to do a particular task. Then I went back to the Library and tried it on my own.

When the SLAC Library was started, the Stanford University computing center was a little building with keypunch machines and a line printer. At the Stanford Research Institute, I had seen an "advanced serials handling system" which meant that each serial had its own punch card. This was cutting edge! So when we built the Library at SLAC, we put the serials on punch cards. I remember walking across campus with my stack of punch cards. So advanced!

FM: What was so important about SPIRES-HEP database of particle physics documents?

LA: There weren't any library database management tools available at the time and SLAC

needed something to meet the unique needs of particle physics researchers. Research papers produced by the particle physics community often have hundreds of authors. The record is 1,200 authors! We were committed to listing all authors or researchers and needed a tool that would accommodate us.

Research papers produced by the particle physics community often have hundreds of authors. The record is 1,200 authors.

The SPIRES-HEP database covers the full literature of particle physics and is a collaborative project between a number of particle physics labs, primarily SLAC and DESY in Hamburg. It's so very flexible, so it's constantly developing. We've always been able to easily manipulate the database to do whatever we needed to do.

Of course, there are two sides to any database - the technology side and the content side. The content side is really what ultimately determines the value of any database. Bob Gex, then chief librarian at SLAC, was responsible for the content side, along with our long-time and remarkable preprint librarian, Rita Taylor. And from the beginning, there have been major contributions of content from our DESY partners.

FM: When did the Web first arrive at SLAC?

LA: On December 12, 1991, the first Web server in the U.S. was established at SLAC to help improve access to the SPIRES-HEP database. For a number of years, SLAC had been providing remote access to the SPIRES-HEP database. In fact, by the time we launched our first Web server, the SPIRES-HEP database had nearly 5,000 registered users in 40 countries.

George Crane had developed a remote interface, initially using BITNET. Researchers could send a search query to SPIRES-HEP via an interactive messaging tool, which was sort of like the instant messaging tools of today. Or they could request information via e-mail. When Internet access came along, the interactive messaging was no longer available; researchers had to use e-mail. Researchers were less satisfied with the e-mail interface; they liked the instant response system better.

On December 12, 1991, the first Web server in the U.S. was established at SLAC to help improve access to the SPIRES-HEP database.

FM: Was this a motivating issue when you first thought of setting up a Web server?

LA: Well, the real motivating issue was a project that we been working on earlier. In 1989-1990, I was helping set up a library at the Superconducting Supercollider (SSC) project in Texas. Pat Kreitz, the SCC librarian, wanted to use the SPIRES-HEP database and wanted to present it to the SSC community in a seamless way within a graphical user interface. SSC had funded the development of an X-Windows interface to do this, but as soon as I saw the Web in action, I knew that it was a fast, cheap solution.

I can still remember the day Paul Kunz appeared in my office after his trip to CERN. He showed me the Web and we started moving right away. I scurried around and got some accounts that were needed. Paul and Terry Hung set up the server on our mainframe. George Crane was able to easily extend remote SPIRES to talk to the new interface. And I was able to make the SPIRES-HEP database write HTML.

I've always felt deeply indebted to Paul for spotting the potential of the Web for our situation and for helping develop the first Web server at SLAC, which proved that potential.

FM: This sounds like it was really a team effort.

LA: It was! While I was working on this project - and for most of my other projects at SLAC - I was constantly seeking input and advice from colleagues. There was almost always someone around who understood the most arcane, technical issues and was willing to help or to give advice. Sometimes conflicting advice!

FM: Did this teamwork model work?

LA: Yes, it was the only way any of these projects could continue. None of us got raises or payment for this work. We did some of it on our own time. We knew that there was value in the work - and it was fun! (I hope my colleagues would agree.)

By February 1992, I had twisted enough arms to start an ad hoc Web development and support group, the WWWizards. The initial group was made up of Mark Barnett, George Crane, Tony Johnson, Joan Winters, Bebo White, all of whom brought important skills to the project.

The original WWW Wizards at SLAC visit Paul Kunz. Left to right: Louise Addis, George Crane, Tony Johnson, Joan Winters, Paul Kunz, and a NeXt computer (missing: Bebo White and Mark Barnett). Photograph courtesy of the Stanford Linear Accelerator Center, Archives & History Office, Stanford, Calif.

Again, I have to mention that in the beginning this was not part of our regular jobs. Luckily, the SLAC Computing Center was quite supportive. Les Cottrell, the assistant director of computing, could certainly have discouraged the computing staff from participating. Instead, they were able to work on the WWWizards team and to support this unsupported software. And, they helped run the server on their computer!

FM: Did you have any idea then of what the Web would become?

LA: No! I was just hoping it would survive at SLAC. For a long time, the Web suffered from the stigma of being unsupported software.

My goal was simply to provide better community access to the particle physics literature via SPIRES-HEP.

FM: Was SLAC a good environment for developing new tools, such as SPIRES-HEP or the Web?

LA: Yes! We always had the ability to respond quickly and be flexible. This was particularly

instrumental in the development of the Web. When Paul Kunz came back from Europe and said, "Let's do this," the Library could move ahead.

And as soon as we were on the Web, we were able to start linking the records in our database to the TeX source at Los Alamos National Laboratory (LANL) where, in August 1991, Paul Ginsparg had started the first e-print server. Paul, by the way, almost single-handedly made another kind of revolution in the way scientific literature is handled ... but that's a whole other story.

As soon as we were on the Web, we were able to start linking the records in our database to the TeX source at Los Alamos National Laboratory.

FM: How were you able to just jump right into this new technology?

LA: First of all, our faculty were used to using unsupported software. We didn't have manuals or training classes, but we did have all kinds of skills and knowledge available for something interesting. The Web was done entirely with volunteer labor at first.

Generally speaking, the Lab encourages experimentation, sometimes officially and sometimes not. The Web server project was something that the SLAC Library could jump right into because of our track record with SPIRES-HEP and our environment. All that had gone before made it easier to get management approval. Plus, the chief librarian, Bob Gex, was terribly supportive. I was lucky in that regard.

MH: Do you feel that development of resources such as SPIRES-HEP has gone faster with the implementation of Web technology?

LA: Oh yes. In fact, this was one of the things that really sold me on the web - it was easy! The underlying Web server and Web browser programming is more technically complex, but creating the resources is much easier. For example, the x-windows project relied on programmers who could manipulate a more complex system. On the other hand, the Web allows for easy development of resources; you can make the page look exactly the way you want without deep programming.

FM: The particle physics world seems tailor-made for the World Wide Web - or should I say that the Web was tailor-made for the physics world?

LA: Absolutely! There is the issue of the need for rapid communication in a field that has a slow publication schedule. Additionally, the particle physics community is made up of very large groups of scientists all working on the same project, but from remote, diverse sites.

Also, these folks are used to trying something new. When we notified our registered users about how to get a free browser from Tim at CERN, many did right away. They wanted to get to our database, so they were really motivated to get that browser and get on the Web. This

helped spread use of the Web in the particle physics community and it also helped people learn about the archives at LANL.

FM: What about the democratizing of the publishing process?

LA: Gray literature is a very important part of the particle physics world. One of the great things about the Web is that it democratized access to these resources. Before electronic communication people who were further away from population centers or technology centers were really behind. They had no way to find out quickly about research.

Gray literature is a very important part of the particle physics world. One of the great things about the Web is that it democratized access to these resources.

Before machine-readable, full-text e-prints were available, paper preprints were mailed by the author or the institution only to major institutions. And researchers at smaller institutions didn't receive the preprints. The only way to find out about these articles was through a preprint list such as the one SLAC published weekly. The researcher then had to request the actual article through the mail. This was too slow.

FM: And the interactive nature of the Web?

LA: In large particle physics collaborations, the experiment may take years from conception through publication. And there may be hundreds of physicists around the world working on these projects. They are all producing materials that need input from others.

Many papers are almost dialogues. Papers go through revisions. Discussion is a big part of the process. Physicists really needed that ability to interact quickly.

The Web was a revolution!

FM: Back to your career development, did you feel more affiliated with the library community or the particle physics community?

LA: Much more affiliated with the particle physics community. Our issues were so different from what others in most libraries were experiencing. In a special library, you have to know your community and listen to them. They're the people that need the library.

FM: Doesn't this apply to all libraries?

LA: More so to special libraries, which are vulnerable and can be more easily closed.

FM: What do you think is the response to this vulnerability?

LA: We need to apply other skills and expertise in order to allow the library to succeed. You

almost never have all the skills you need. You have to find them elsewhere. For example, at the SLAC Library we wanted to make PostScript files and graphics available via the Web, rather than just linking to the TeX sources. So, when Tony Johnson developed Midas, the first GUI browser that was bug-free enough for us to use, he added capability for reading and displaying postscript. This was the kind of development done on someone's personal initiative. This is skill and interest that you cannot buy. Also, Tony had the breadth of knowledge of a particle physicist's needs and a willingness to tinker.

FM: So, we're back to an environment of experimentation ...

LA: Yes, a lot of environments don't make it easy to go outside or take risks and that's what is required to be visionary. You can't pay attention to things like job descriptions.

FM: Is there anything that concerns you about the development of the Web?

LA: I'm concerned about commercialization. The Web has been a democratizing place. Now, we're moving toward large entities controlling most content - or the content that most people see. You can get to other sites, but these services shape your experience. AOL tells you the story of the day and offers you its preferred links.

On the one hand, anyone with a little curiosity can find things they'd never dream of having access to. But portals do control what a lot of us see - or have time to see! But this has always been true of the media; the Web is just another instance of this.

FM: What about the issue of the digital divide? Or does this problem not exist in the academic community?

LA: Actually, this has been a continuing problem for some of the remote or less prosperous regions of the world. In the U.S., a small physics department in a small school may have a slow line or slow equipment.

When I was at SLAC, we always created pages in formats that were much simpler than what was technically possible. Harv (Hrovje) Galic, the HEP database manager at that time, originated much of our early Web interface. Harv was adamant about trying to have pages that could be easily read in some of the less prosperous parts of the particle physics community. Harv was from Zagreb and had a real awareness of the constraints faced by many of his colleagues.

In fact, we were occasionally ridiculed because our pages didn't have graphics; but this was done purposely. The main reason was because many of our users didn't have the capability to see graphics - or graphics were an impediment on a slow system.

The digital divide is real. It's less of a problem in academic communities where the issue is fast or slow connection. Or good network support and stability. In society as a whole, the issue is having any access at all.

FM: Finally, do you think many folks will be surprised to learn that the first Web server in the U.S. was installed to help support a library project?

LA: Not at all! To me, it's really significant that our own early success story on the Web was

driven by the need to bring a large body of carefully organized bibliographic records, SPIRES-HEP, to its worldwide audience!

The Web has certainly proven to be a shiny but challenging new tool for librarians to use in their crucial role as collectors, organizers, preservers, and presenters of information. Librarians will continue to play a critical role in helping to organize and provide access to information. Perhaps an even larger and more important role now that we're in the "wild, wild west" era of Web content development. FM

Notes

1. Tim Berners-Lee, 1999. *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by its Inventor.* New York: Harper SanFranciso, p. 45.

2. Berners-Lee, p. 46.

Editorial history

Paper received 13 April 2000; accepted for publication 17 April 2000.

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First Monday, volume 5, number 5 (May 2000),
URL: http://firstmonday.org/issues/issue5_5/addis/index.html