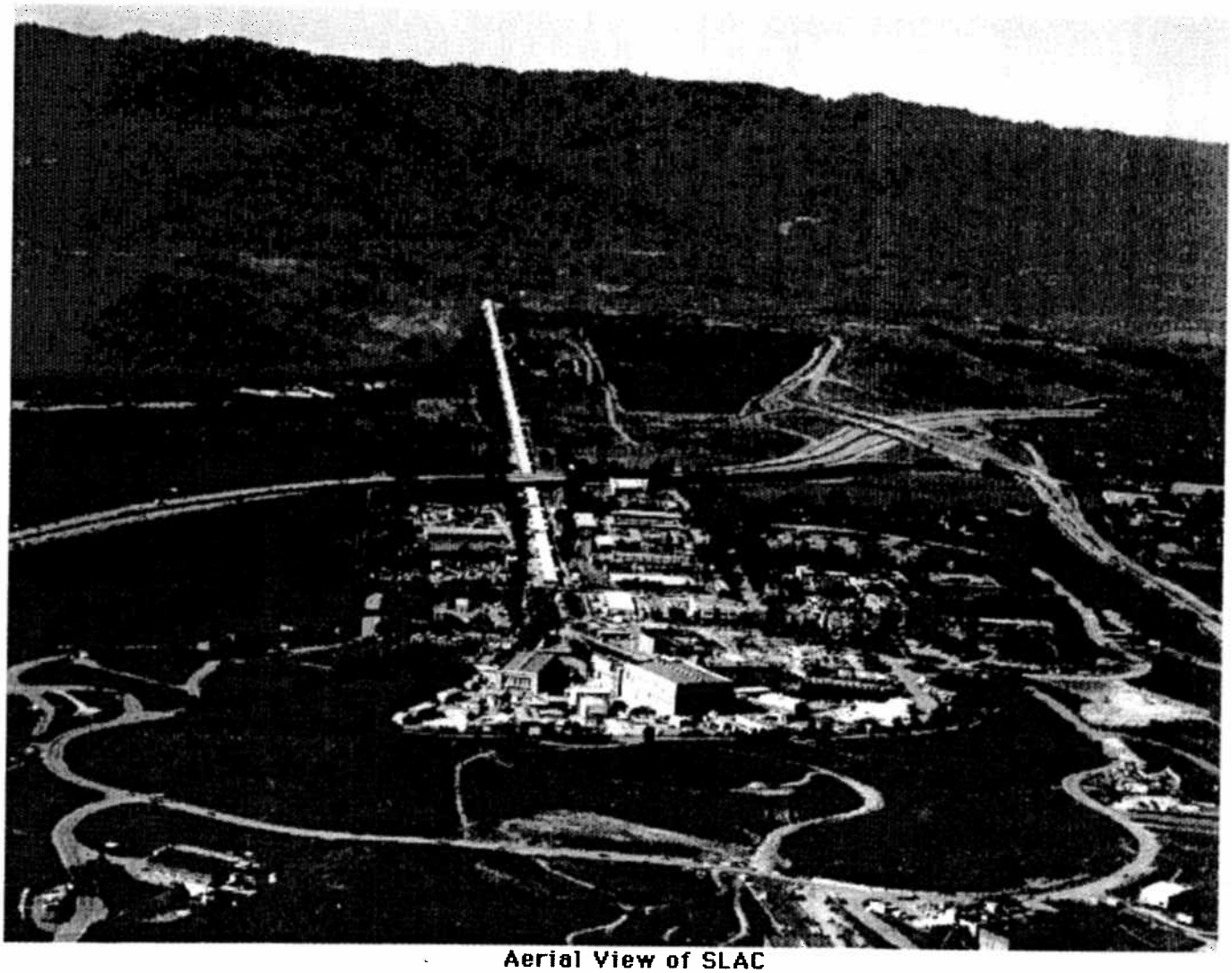
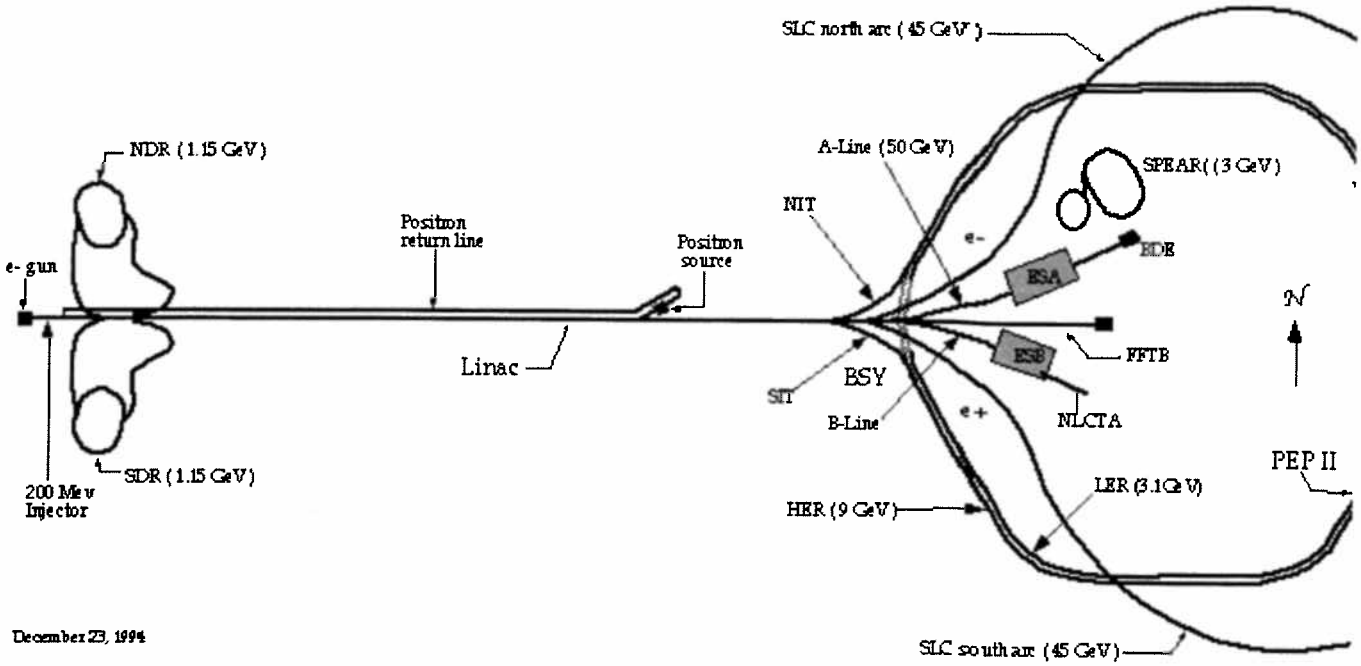
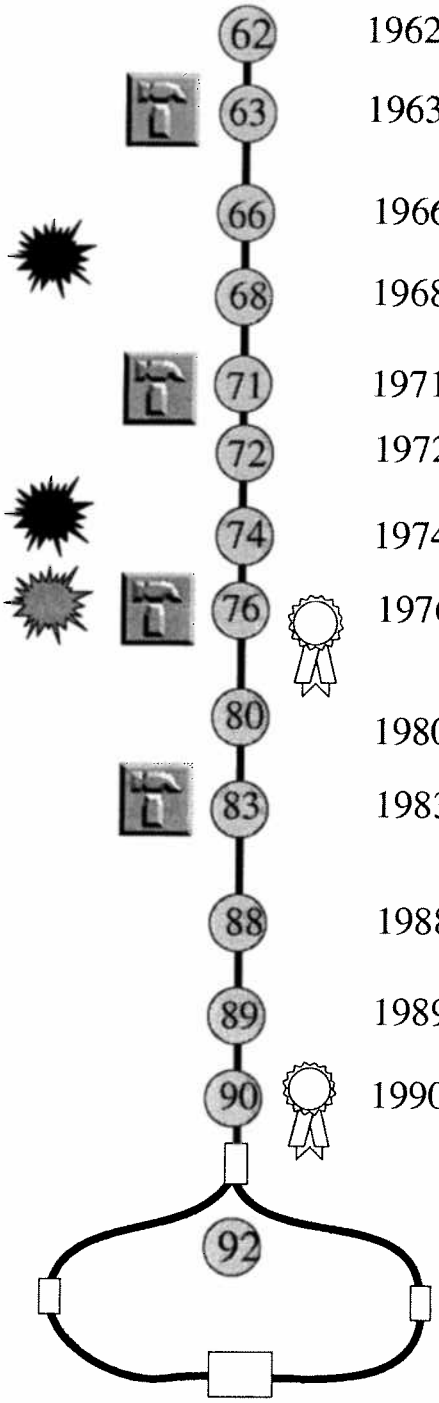


Aerial View of SLAC
(adapted from photo by Joe Faust, 27 Feb 1987)

SLAC Beam Lines Overview





1962: Groundbreaking

1963: Construction begins

1966: Construction completed

1968: First evidence of Quarks

1971: SPEAR Construction starts

1972: SPEAR begins operation

1974: Discovery of Psi particle

1976: Discovery of Tau particle
PEP construction begins
Richter gets Nobel prize

1980: PEP begins operation

1983: Construction of SLC begins

1988: SLC begins operation

1989: First Z's seen at SLAC

1990: SPEAR transformed into
Synchrotron light source
Taylor gets Nobel prize

1992: 10,000 polarized Zs

6 Dec 1994 ~2:15 am logo.gif became Slac_Seal-6.gif (25 Oct 1994) from Terry And

Index of /archive/1995/SLACinst/src

Name	Last modified	Size	Description
Parent Directory	03-Jul-1996 10:47	-	
fact-sheet.tex	08-Aug-1994 18:29	25k	
key-events.frame	22-Sep-1993 12:01	3.0M	

Apache/1.3.12 Server at www.slac.stanford.edu Port 80

Index of /archive/1995

Name	Last modified	Size	Description
Parent Directory	25-Oct-2000 21:14	-	
SLACVM/	27-Jan-1997 19:05	-	
SLACinst/	03-Jul-1996 10:47	-	
annals.html	22-Mar-1995 03:51	1k	
buildings.gif	05-Aug-1993 10:49	39k	
comp/	03-Jul-1996 10:47	-	
how-to-order/	23-Jun-1995 17:37	-	
key-events.ps	12-Aug-1993 16:36	100k	
logo.gif	25-Oct-1994 20:55	7k	
news-bfac-decision	09-Nov-1995 14:07	17k	
oldslac.html	17-Mar-1994 20:01	13k	
ppar.memo	10-May-1995 20:40	3k	
slac.html	10-Dec-1995 10:49	19k	
slac.htmllog	10-May-1995 13:58	18k	
test-slac.html	10-Dec-1995 10:32	22k	
todtw/	03-Jul-1996 10:47	-	
www/	09-Dec-1996 14:46	-	
wwwproto08/	03-Jul-1996 10:47	-	
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Index of /archive/1995/comp

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	afs.html	10-Nov-1995 18:20	4k	
	futures.html	17-May-1995 06:14	8k	
	pc.html	21-Oct-1994 09:31	6k	

Apache/1.3.12 Server at www.slac.stanford.edu Port 80

FY 1995 Long-Range Plan

Stanford Linear Accelerator Center

Section 1. IRM Overview and Strategic Plan

A. Site Profile

A.1 Mission

SLAC is dedicated to research in high energy particle physics and to the development of new techniques in high energy accelerators and experimental apparatus. SLAC is charged with providing accelerators, detectors, and necessary support for physicists to carry out research in High Energy Physics. This includes developing new detection techniques, new technology for linear colliders, improving existing accelerators, and assisting the scientific community to exploit special opportunities which may stem from the primary mission. SLAC is operated as a national facility so that scientists from universities and research centers throughout the world may participate in the high energy research program.

The success of the state-of-the-art SLAC Large Detector (SLD) and the addition of the polarized electron beam at the Stanford Linear Collider (SLC) give every indication that the SLC will continue to operate productively for particle-physics research throughout much of the decade of the 1990s. Operational experience with the SLC and the continuing improvement program for electron beam polarization will result in doubling the luminosity. "Spin-off" from the advanced linear collider program may also make important contributions to the goal of higher luminosity.

SLAC physicists are involved in a number of energy research projects here and abroad. The fixed target facilities in End Station A were revitalized for a series of experiments which began in 1992 and will continue for several years. SLAC is leading a group of U.S. physicists working at the Beijing Spectrometer Facility in China which is helping to develop software and participating in the data analysis. SLAC physicists are also participating in design studies and detector construction for a Tau-Charm factory located in Spain.

The central focus of the advanced accelerator R&D at SLAC is on the development of electron-positron linear colliders, and this emphasis is expected to continue over the next 15 years. A near-term objective is to design a collider with five times the center of mass energy of the SLC. In conjunction with this design are research efforts looking at beam dynamics and sub-system designs. Short-term R&D programs in klystron technology are focused on cost effective radio frequency sources for the future colliders.

In March of 1991 SLAC, LBL, and LLNL jointly submitted a proposal for the construction of an asymmetric energy B meson factory. An aggressive program of R&D has been established to validate design choices and to provide experimental confirmation of engineering parameters. The validation phase is using the existing PEP storage ring's conventional facilities and technical components. The B Factory is expected to support a very rich physics program, including as its centerpiece the study of CP (charge conjugation and parity) violation in B meson systems.

The Stanford Synchrotron Radiation Laboratory Division of SLAC (SSRL) runs a national user facility which supports the research activities of a large group of scientists. Currently some 600 scientists from academia, industry, and government are involved in research in many different scientific fields using the ultraviolet and x-ray radiation from the SPEAR 3.5 GeV storage ring. With full dedication, the independent injector and a fully functional low emittance lattice, SPEAR has become one of the four brightest x-ray synchrotron radiation sources in the world.

A.2 Site Organization

The Stanford Linear Accelerator Center is operated by Stanford University as a National Facility under government contract with the Department of Energy (DOE). DOE carries out its role as the responsible government agency administering SLAC affairs through its program and fiscal approval procedures. Contracting responsibility at Stanford resides in the Board of Trustees of the University. Construction and operating responsibility for SLAC extends from the Trustees to the President of Stanford University who has in turn delegated this responsibility to theDirector of SLAC. The overall organizational structure is given in Figure 1.

The memberships of both the Scientific Policy Committee and the Experimental Program Advisory Committee include physicists from several universities and laboratories from around the nation.

SLAC computer policy and monitoring, seen in Figure 2, shows the organization for the review and management of ADP efforts. The responsibilities of the Laboratory Computer Policy Committee (LCPC) are set forth in Figure 3, and those of the Computer Coordinating Committees (CCC's) are set forth in Figure 4. The LCPC provides a forum for the interaction of SLAC and SCS management and budget and planning personnel, while the CCC's provide for interaction between technical program personnel and SCS management.

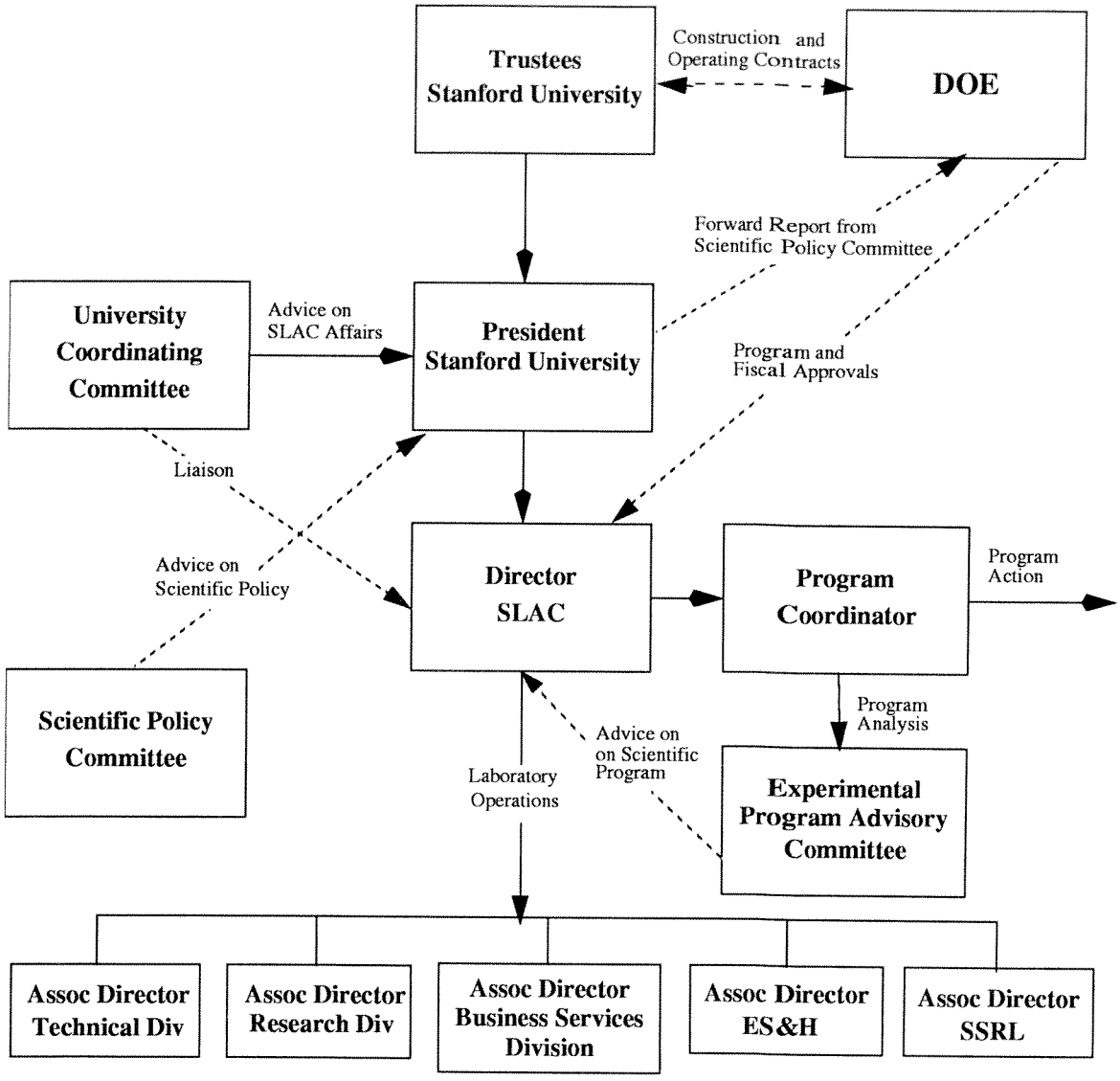

FIGURE 1. Slac Operations by Stanford University

FIGURE 2. SLAC Laboratory Computer Policy Committee

A. General: This Committee is responsible for reviewing (a) the long-term computer needs of SLAC and methods for meeting them, and (b) the SLAC computer systems and operations with respect to their adequacy, utilization and economy. The Committee will convey reports and make recommendations in both areas to the Director of SLAC annually.

B. Membership: The Committee membership consists of the following:

Assoc. Director for Research Division - Chairman
Assoc. Director for Technical Division
Assoc. Director for Business Services Division
Director, SLAC Computer Services (SCS)
Chairman, SLAC Computer Coordinating Committees
Group Leader, SLAC Computation Group
Three SLAC Experimental Group Leaders - to be appointed by the Director

Ex Officio:
Assistant Director for Business Services Division
Budget Officer - SLAC

C. Detailed Responsibilities:

More specifically, the Committee directs its attention to the following:

1. To conduct reviews of the proposed program and proposed budget for operations of the SLAC Computer Center during the next fiscal year. This includes an evaluation of the past performance, including review of the Computer Coordinating Committee's reports and the current performance.
2. To conduct periodic reviews of the equipment needs for the Central Computing Facility.
3. To review long-term projections of computer use at SLAC and plans for the future development of the Central Computing Facility.
4. To review the significant software developments and needs of SLAC. With respect to the former, to review the progress achieved to date, with reference to milestones and costs where appropriate. With respect to the latter, the possible alternatives with cost and schedule implications, and recommendations as to the proposed program and need for schedule/cost estimates vs. achievement/cost experience comparisons.
5. To conduct periodic reviews of the performance of the Central Computing Facility and to act as a vehicle for the resolution of conflicts that the Computer Coordinating Committees or other cognizant people in the laboratory cannot resolve.

FIGURE 3. SLAC Computer Coordinating Committees

A. General: These Committees, the CCG and the VCG, are concerned with the coordination of user needs and site-wide strategic goals, the adequacy of response to them by SLAC Computing Services (SCS), and for making recommendations for improvements to the Director of SCS, the SLAC Associate Director for the Research Division, or both as appropriate.

B. Membership: The membership of these Committees is as directed by the Associate Director for the Research Division and shall as much as possible consist of representatives from each technical or research group in the laboratory that makes substantial use of the computing facilities. The chairmen are appointed by the Associate Director for the Research Division. The Director for SLAC Computing Services shall be an ex officio member of each committee.

C. Detailed Responsibilities:

1. These recommendations are concerned with the scheduling of changes, the development of operating schedules, procedures for access to the computers, procedures for communicating between users, the addition of new equipment, and the relocation and reassignment of VAXes.
2. If the recommendations cannot be implemented by SCS for any reason, an explanation will be reported back to the appropriate Committee and the item may receive further discussion.
3. These committees ascertain from users whether the scheduling policies are meeting their needs. They should determine what problems are not getting handled and for what reason. This information will be factored into their recommendations.
4. Minutes of the Computer Coordinating Committees are distributed to various Directors and group leaders.
5. The Committees recommend to either the SCS Director or the Associate Director for the Research Division or both, as appropriate, allocation and reallocation of resources such as remote entry terminals, memory partitions mass storage, etc. In furtherance of their resource allocation responsibilities, the Committees review the major ADP application developments requiring allocation or reallocation of resources and include the results of their review as part of their recommendation for resource allocation.
6. The chairmen of the Coordinating Committees make reports to the Laboratory Computer Policy Committee. They include a summary of resource allocation decisions, results of the reviews of major ADP applications, evaluation of the continued need for periodic computer produced reports, and an evaluation of current scheduling procedures and policies.

The Committees maintain records of the resources for which they have received approved allocations.

A.3 Point of Contact

Point of contact for recipient for DOE IRM Long-Range Plan is:

Hugh J. Steckol
Assistant Director, Business Services Division
Stanford Linear Accelerator Center
P.O. Box 4349, Mail Stop 2
Stanford, California 94309
(415) 926-4245

B. Overview of Current IRM Environment

B.1 Computing Resources

The Central Computer Facility provides the central computing, storage, and communications services which allows SLAC users to carry out their programmatic mission in a timely manner. Its goal is to continue providing sufficient computational and network capacity and capability to support both existing and future laboratory programs. It is our intent to provide a highly interactive, user-friendly, and flexible environment for scientific computing and administrative support. In physics computing, which presently represents about 95% of the system load, the basic objective is to create simpler, faster, and more detailed access and transformation of the physics data generated at the lowest possible cost. This is no simple task since the complexity of our experiments continues to increase with a consequent increase in computer resources required just to keep pace with the progress of an experiment.

Laboratory policy has been to stress project responsibility by either an individual or a group from inception through development and on into operation. This approach has provided a degree of continuity and commitment which has resulted in superior performance from those who are charged with making decisions. In the computing and networking areas this responsibility has been assigned to SLAC Computing Services (SCS). This group must interact on a continuing basis with the research and operations groups to provide daily service and project future requirements. Because computing is an integral part of running the accelerator and its experiments, it receives top management attention to assure that a balance among available resources is maintained. Any significant imbalance would result in degraded performance in achieving the Laboratory's mission.

SCS is organized into five management areas:

- Network and Server Systems: Plans, engineers, and manages SLAC's local area and wide area networks. Installs, tunes, maintains, and administers the operating systems of major (workstation and larger) computing systems.
- Workstation Support and SCS Administration: Provides end-user support for endorsed user interfaces of desktop, workstation, and server platforms through education, documentation, and consulting assistance. Provides administrative services for SCS staff.

- Management Information Systems: Provides site-wide MIS development services and procures, installs, and maintains database systems.
- Network and Server Technical Support: Provides operational support for the central computing facility; networking hardware support; hardware support for the distributed, networked computers; first-line consulting support for central facility users, and hardware maintenance contract coordination.
- Administrative Data Processing: Provides Information Systems (IS) support in the areas of accounting, payroll, procurement, stores inventory, and capital equipment inventory.

The installation of the DEC VAX 9000 and the IBM ES 9000 in 1991 provided the needed increase in computing requirements for SLD's data taking and analysis setup. Installation of powerful workstations in conjunction with the mainframes has provided a base for developing a new distributed client-server model for future physics experiments and collider designs. Key hardware elements are massive amounts of CPU capacity, speed of accessing disk storage on the system, and massive data storage capacity. Design and simulation of future collider and experiment systems requires large numbers of CPU cycles, relatively modest data storage capacities, and a high degree of interconnectability among many computer and storage systems both on- and off-site. Real-time experiment and accelerator control systems are highly specialized, with fast response and feedback. Although local in nature these systems both provide data for and require data from the general central systems and networks. The goal is to continue adapting the operating environments to accommodate a variety of hardware systems at the central facility acting as network servers and on small dedicated machines which are combined in a homogeneous network under network-oriented software. This network must provide easy-to-use and stable user-machine interfaces.

As the central facility turns to providing services in a client-server environment, the role of the central facility for computing will focus on becoming a general purpose node for large-scale development, design simulation, offline production, access to common files (network file server), and database management. Smaller specialized applications will migrate to single-user workstations dedicated to the role the user plays at the laboratory. Access to all applications will be made from these workstations. These workstations will be a fundamental building block in the network. Special purpose functions, particularly real-time, on-line, and large kernels of stable production codes needing unique, specialized, or very simple operating environments will move in some cases to special purpose servers.

Reflecting this is the present central processor hardware configuration operating under VM and VMS but with integrated silo access. For the SLD experiment there is a dual developmental and operational path. Codes run on both the IBM ES 9000 and VAX machines at SLAC and at collaborator sites. Code development is performed at both SLAC and collaborator sites. A SLAC-defined common MORTRAN-FORTRAN standard is used for all code to facilitate compatibility. At the source code level, therefore, applications are the same in both VM/CMS and VAX/VMS. SLAC is trying to provide as

integrated an environment for VM and VMS as possible. Both the central VAX and VM machines are connected to the STK silos for mass storage capabilities.

Refer to Figure 5 for the configuration of the Central Computer Facility.

FIGURE 4. Central Computer Facility Configuration

For future experiments and new collider design, SLAC is actively investigating a client-server computing environment based on high-powered scientific workstations running under the UNIX Operating System to augment the typical mass-market workstations. Additionally, specialized UNIX servers have been installed in conjunction with the central VAX and VM machines. The outcome of the investigation for distributed computing and its integration into our environment will in large measure determine the make-up of the SLAC 95-1 and 97-1 MIEs. During the transition period from a VM- and VMS-based environment we anticipate that the mainframes will provide a strategic role as central servers to the entire network. Part of the investigations into the use of high-performance workstations is the possible transition from VM and VMS to UNIX on many of the larger servers as well.

In networking, terminal network functions at SLAC are being consolidated for consistency with future technological developments in the communications field. In CPU networking, connecting is accomplished with existing technologies. Various future OSI technologies conforming to GOSIP are being considered to provide broader based on-site networks. During the interim, the standard adopted is TCP/IP protocols. All multi-user computers, higher-performance workstations, Xterminals, and over half the personal workstations (e.g. PCs and Macs) on-site communicate via the SLAC Ethernet. Ethernet connectivity for "dumb terminals" is provided by Ethernet terminal servers. There has been an exponential growth in the number of ethernet hosts in the last few years. A move to routed networks is in process which will allow us to increase aggregate bandwidth capacity, problem isolation capability, and redundant paths. The FDDI backbone being installed will provide increased capacity for major servers and act as a backbone for Ethernets.

Major changes in the manner in which physics data are managed and organized have taken place providing improvement in the timeliness and quality of experimental results. The use of an interactive system and larger amounts of disk space we have revamped the handling of summary data. This is the point at which the physicist is looking for new physics results. Over a longer period of time experiments are planned with new techniques, involving larger storage devices to more effectively handle raw data.

A major problem is extending new techniques developed on one computer to a network of computers. In part, SLAC is dealing with a simpler version of this problem by managing SLD codes across the VM/CMS and VAX/VMS environments. UNIX may be the long-term solution to variant hardware platforms, as many industry leaders predict. SLAC is already incorporating the environment of the single-user computer or intelligent terminal with that of the central and departmental facilities to present a single image to the

interactive user. Increased effort must be applied to experimenting with languages such as "C++" which are more suitable for organizing physics data in a network environment and for design and control codes. FORTRAN is neither syntactically nor practically extendable over the long haul.

B.2 Software

Administrative software activities have been confined mainly to maintenance of existing systems for several years due to budgetary constraints. The age and maintainability of these systems has been a matter of growing concern among users and maintainers alike. The Business Information Resources Group was formed last year to review information processing needs and to recommend changes in the strategic direction for administrative processing to the Associate Director for Business Services. The group consists of high level managers in all pertinent administrative areas (e.g. Personnel, Purchasing, Accounting, Budget, Facilities), computer experts, and other affected areas on-site. It meets regularly to review and discuss the distribution of resources and the requirements for each area, and to formulate an integrated approach for using these resources to meet the requirements. The limited resources available have made the use of off-the-shelf solutions one of the more viable options. There have been no formal recommendations as yet from the group, but an awareness of the process as well as a more formalized system of management controls for software development is evolving as a result of these deliberations. Until such time as formal proposals materialize and resources become available to carry them out, software activities will still be considered on hold save for the maintenance aspects.

C. General Telecommunications

Telecommunications is in SLAC's Business Services Division. It is organized into six areas:

- Management Oversight: Oversees all Telecommunications acquisitions to ensure compliance with DOE Telecommunications policies and procedures for voice, data, radio, and video products and services.
- Telecommunications Operations: Provides console operations, directory, invoice reconciliation services to the SLAC and user communities.
- Telecommunications Services: Provides switch and service vendor maintenance management. Performs system analysis and engineering, station add, move, and change, and network and traffic monitoring, performance, and reconfiguration functions.
- Telecommunications Management Systems Development: Provides software development services for integrated automation of telecommunications management functions (i.e. call detail recording and reporting, add, move, and change switch and community dynamic interfaces, directory update and look-up, cost accounting functions, etc.).
- Wireless Communications: Designs and engineers SLAC's wireless (that is, radio) infrastructure. Coordinates wireless communications emergency technical support. Manages and oversees pager vendors.

- Emergency Communications: Coordinates emergency preparedness communications and administers cellular telephones and oversees their vendors.

C.1 Data Communications

SLAC has extensive on-site and off-site data communications systems. Terminal usage during a typical month runs to over 80,000 logged-on hours on the IBM mainframe VM Service alone. Asynchronous ASCII terminals account for about 50% of the VM use. The bulk of the remainder of VM use is via Telnet/Tn3270 and is growing. Most on-site dedicated ASCII terminals at SLAC use twisted pair circuits to connect to a Micom switch at 9600 bps and 19,200 bps. Five IBM Series/1's using the Yale 3270 emulator program provide full-screen logon to VM for ASCII terminals and emulators. TCP/IP Telnet and Tn3270 logon access are provided to VM and telnet, and DECnet/LAT access is provided to the VAXes. About 60 locally attached 3278-compatible, high-speed display terminals are also used for access to VM via 3274-type front ends. In addition, there are 6 Ethernet terminal servers supporting about 150 terminal/computer ports.

Off-site users can gain access via normal phone dial-up facilities using modems at speeds up to 14400 bps and faster with MNP and v.42bis compression. Users with ASCII terminals or emulators can use these facilities to access the SLAC Micom switch. Mac users can use AppleTalk Remote Access (ARA) protocol to access the SLAC AppleTalk network. Xterminal users can access SLAC via the Xremote protocol. In addition, seven dedicated lines using statistical multiplexors and voice grade telephone lines provide access to various universities and TRIUMF; microwave links exist to Stanford University and to LBL.

On-site users requiring logon to off-site computers use DECnet, TCP/IP and the Micom switch to access dial-out modems, the statistical multiplexors, the LBL microwave link, as well as ESnet via T1 links and BARRnet/NSFnet via a 10 Mbps microwave link to Stanford. SLAC is a backbone node on the nationwide DOE-funded ESnet/HEPnet DECnet/IP/X.25 network with redundant 1.544 Mbps links to Caltech and LBL. ESnet terminal access to and from the Micom switch is supported via an IP PAD. The SLAC Ethernet is connected to ESnet by a router. The Micom switch supports access to the Central Computer System as well as access to other computers at SLAC, including 10 VAXes and about 120 micro VAXes and VAX workstations.

The SLAC Ethernet now covers most of the SLAC site. It is comprised of over 350 segments divided into twenty-five Ethernets and ten subnets by LAN bridges and routers and, in some cases can automatically back up one another in case of failures. Many of the Ethernet components are provided with facilities to reduce the impact of power failures on availability. The SLAC Ethernet directly connects over 760 hosts, including two IBM and 1 VAX/ VMS mainframes, over 120 VAXes of all types, over 250 PCs and Macintoshes, over 100 Xterminals, and about 250 Unix workstations (NeXT, IBM, and Sun). In addition, about 350 Macintoshes are connected via LocalTalk and can access the Ethernet via 25 FastPath routers. There are four major protocol suites carried on the Ethernet: TCP/IP, DECnet/LAVC/LAT, AppleTalk, and XNS.

Several dedicated, and in some cases replicated, servers provide highly available network services including file, time, directory services (NIS (YP)), mail transfer, netnews, and Xterminal booting.

The DEC VAX computers on-site, ranging from micro VAX workstations to the VAX 9000 mainframe, are all connected via the SLAC Ethernet and communicate with one another via DECnet and TCP/IP. Four local area VAX clusters use separate Ethernets to provide clustering between CPUS. These local Area VAX cluster Ethernets are bridged or routed to the public Ethernet. About 40 of the VAXes also communicate over the Ethernet with the central VM system via SLACnet applications built on the XNS suite of protocols. Using the Ethernet file transfer applications, files can be transferred at up to a few hundred kbytes/second between the IBM mainframes using BTI and IBM 3172 front-ends and the DEC VAXes using various Ethernet controllers.

To accommodate the increased need for bandwidth on the SLAC Local Area Network, work is continuing on the segmentation of the network, and fiber optic links have been installed to support an FDDI token ring network. The ring is being used to connect major servers directly and as a backbone for connecting ethernets.

The SLAC IBM 9000-580 is connected by 9600 baud to the nationwide BITNET network. Sixteen on-site DEC VAXes and micro VAXes are connected to the IBM 9000-580 using BITNET connections. About 80,000 files per month are transmitted through BITNET by the IBM 9000-580. Printing at remote locations, both on- and off-site, is supported by a number of laser printers which are network accessible to all systems using LPR and other protocols.

To support the BEPC collaboration at IHEP/Beijing, SLAC has been using a dial-up asynchronous DECnet link and dial-up remote logon at 9600 bps. Plans are in progress to replace the dial-up link with a dedicated 64 kbps satellite link.

Diagrams of the on-site and off-site Data Communications Network are shown in Figure 6 and Figure 7.

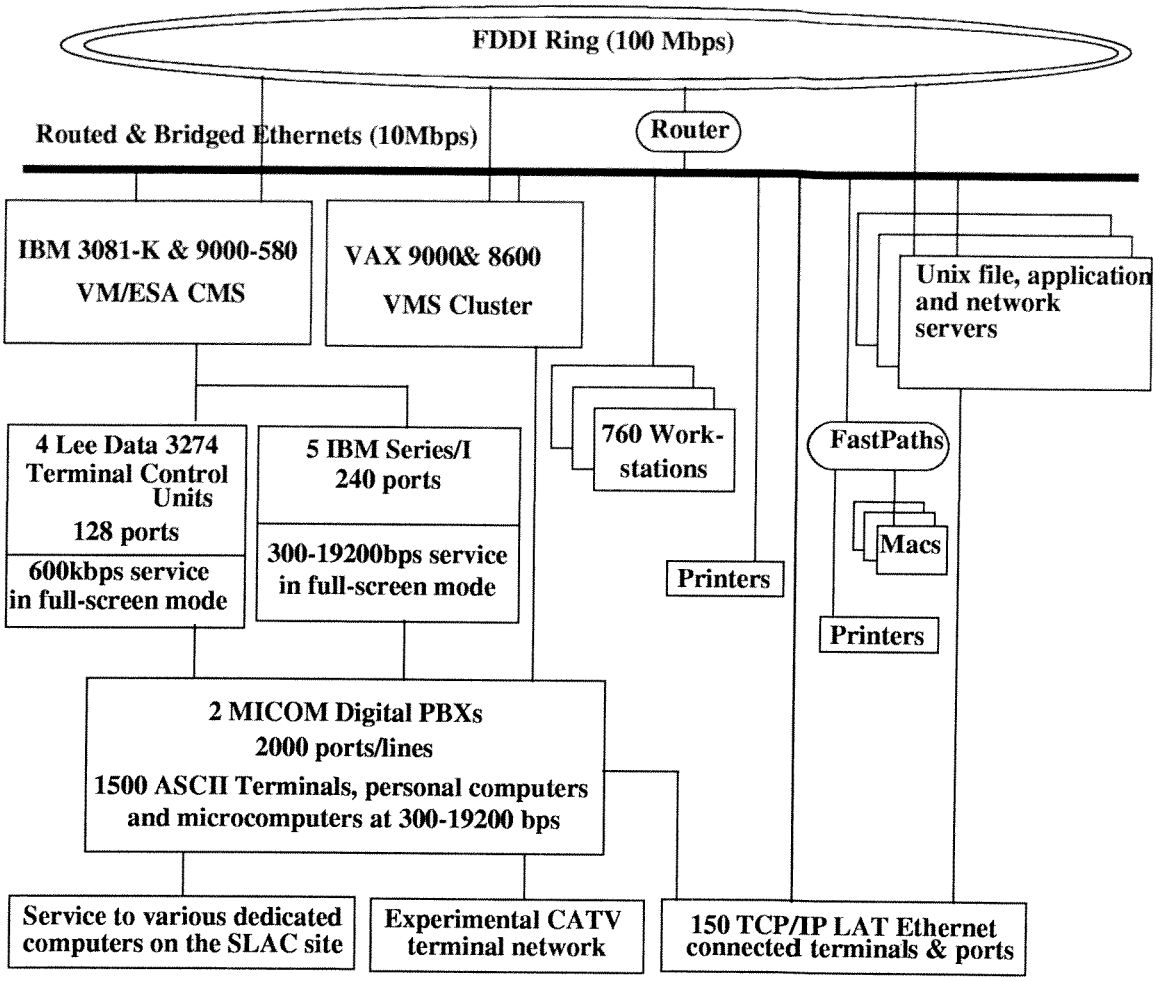

FIGURE 5. Central Computer Facility On-site Data Communications Network

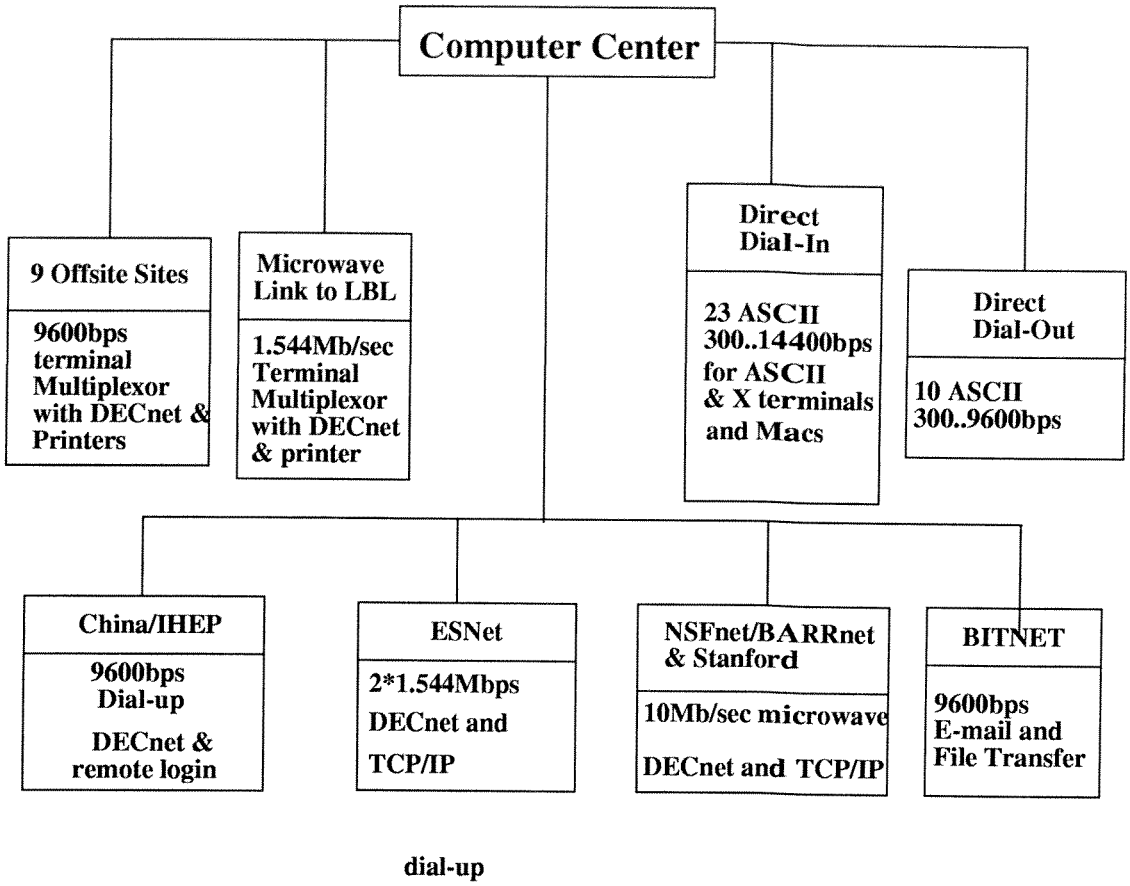

FIGURE 6. Central Computer Facility Off-site Data Communications Network

C.2 Voice Communications

A Northern Telecom SL-1 XT digital switch has been supplied through a service contract by Pac*Tel Info Systems for a period of ten years from the installation date of March 7, 1988 to provide SLAC with voice and analog data service. The system is wired for 3500 ports, with approximately 3250 ports currently in operation. The system comprises all elements from the demarcation point with the Pacific Bell System to the telephone serving the end user. These include the telephone cable plant, an electronic switching system (ESS) with requisite software, attendant and administrator positions, and end user and secretarial telephones. The system is based on the "single-line concept", where 3094 ports are dedicated to single-line telephones and the balance are dedicated to multi-line telephones used strictly for secretarial functions. The switch is provided and maintained by Pac*Tel for 10 years at a guaranteed fixed price per line. The telephones are owned by SLAC and furnished to Pac*Tel for new installations.

A voice mail system was added during 1992 as a enhancement to SLAC's basic phone service. The system is Meridian Mail system purchased from and maintained by Pac*Tel Meridian Systems. Adding this voice mail system required an upgrade to SLAC's telephone switch software, thus bringing the entire system to the current release of system software. As an ancillary benefit of this upgrade, SLAC's telephone system is now more compatible with digital networks, including ISDN.

Significant features include 37 Central Office Trunks, 22 Foreign Exchange Trunks, and 1 T-1 and 2 Band 9 WATS all used for outward calling and accessed from the system by dialing 9. A single T-1 FTS 2000 (dial access 7), 8 tie lines, and 4 OPX Lines (dial access 8) are also used for outward calling. FTS is available for on-net and off-net traffic; the tie lines and OPX's enable direct communications between SLAC and Stanford University and provide off-hour telephone service. Sixty Direct Inward Dial Trunks are dedicated to SLAC and are used for inward calling. (See Figure 8.)

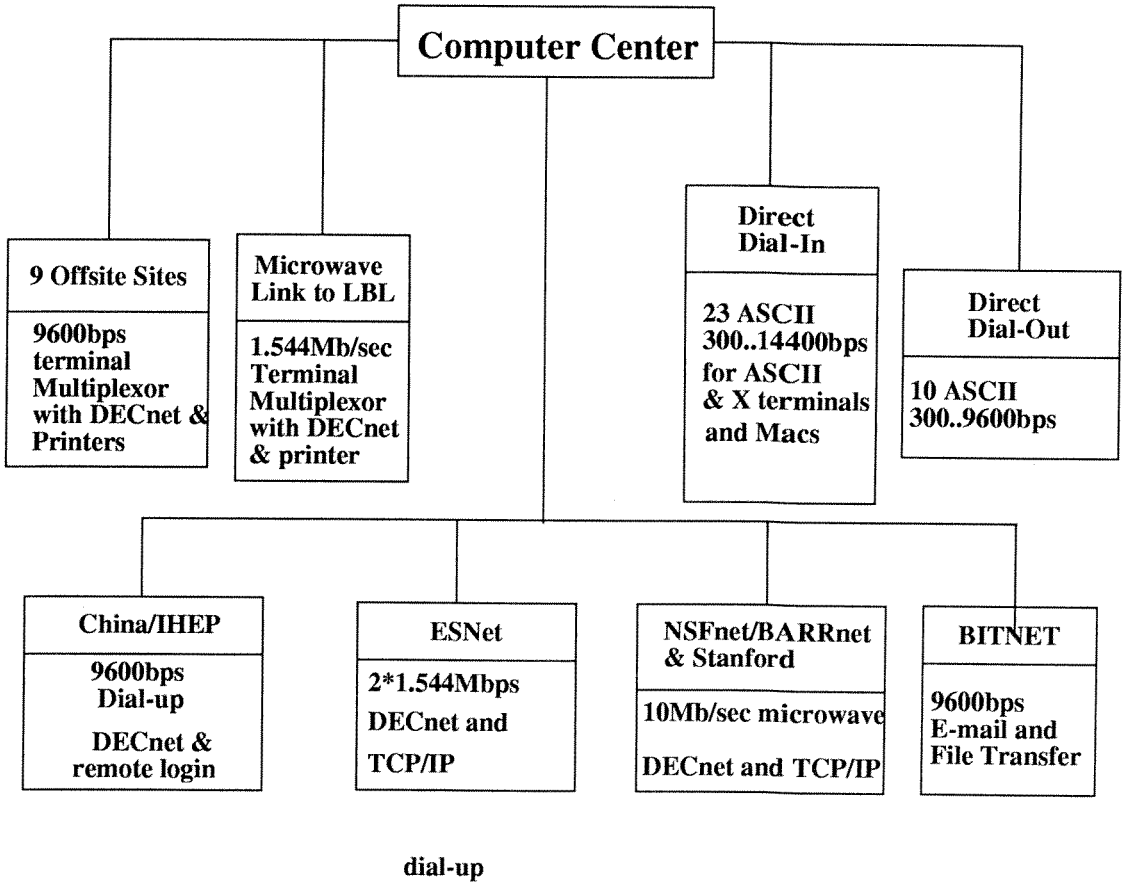

FIGURE 7. SLAC's Telephone Systems

The above trunks are provided by Pacific Bell and GSA (for FTS). SLAC's equal access carrier for long distance is Allnet Communications (U.S., Canada, Mexico) and ATTCom (international). In addition, SLAC has eleven special circuits (dedicated to alarms), seven measured business lines (dedicated to emergency switch bypass), and thirteen coin telephones.

Since the SL-1 switching equipment will reliably transmit low-speed digital information, telephone service from Pacific Bell for this purpose has been incorporated into the SL-1. All data communications operations use SLAC-owned and contractor provided lines.

Off-site data communication telephone costs are incorporated in the Data Communications Program and are not included in the Voice Program. On-site dial-up data communications costs are incorporated in the Voice Program.

SLAC has twenty-two cellular phones which use Pac*Tel Mobile Service for local access and AT&T for long distance access.

C.3 Frequency Spectrum-Dependent Communications

Radio

SLAC has 13 assigned radio frequencies for On-Site communications. These are as follows:

Frequency	User
164.350 MHz	Accelerator Operations
164.600 MHz	Accelerator Operations
167.875 MHz	Site Security
167.900 MHz	On-Site Paging
167.925 MHz	Research Experimental Personnel
410.800 MHz	SLC Project
411.075 MHz	SLC Project
411.600 MHz	SLC Project
412.650 MHz	SLC Project
412.750 MHz	SLC Project
413.800 MHz	SLC Project
416.250 MHz	SLC Project
416.300 MHz	SLC Project
416.425 MHZ	On-Site Paging

The 164.350 MHz Frequency for Accelerator Operations has been augmented with the new 164.600 MHz frequency for non-emergency traffic.

Four radio frequencies, 72.24, 72.38, 72.44 and 72.56 MHz are in use to control overhead cranes in the PEP Interaction Regions and the Collider Experimental Hall.

C.4 Video Teleconferencing

In early 1990 a national HEPNet team conducted a study of video teleconferencing equipment from several vendors and developed a standard for HEPNet. In January 1993 using these guidelines, SLAC acquired video conferencing equipment and services from Video Telecom, Teleos, and FTS-PRI service ordered through FTS 2000 to be fully compatible and interoperable with the HEPNet video conferencing infrastructure. To ensure compatibility SLAC's system has the following characteristics:

- Codecs are CS350s using the Video Telecom CS-350 coding scheme
- Codec bit rates are either 128 or 192 kbps
- Long-haul communications facilities are provided by AT&T FTS 2000 Switched Digital Service
- Access to the long haul network is via PRI through Teleos Network hub
- Inverse multiplexing in the network hub.

C.5 Communications Security - (N/A)

D. Programmatic Uses of Site Information Technologies - (N/A)

E. Information Technology Initiatives

E.1 Software

SLAC has initiated a study project to identify systems, within the entire suite of existing administrative applications, and specify requirements for their eventual replacement by fully integrated, online, real-time systems. We have not at this time finished requirements specification, determining which systems will be replaced, or specified the order in which replacement will be accomplished. There are no systems, scientific/enginering, or manufacturing software projects planned at this time for the central or main-frame computational nodes at SLAC.

E.2 Computing Resources

There is no major computing equipment planned for the central node other than those mentioned in MIE 95-1 and MIE 97-1.

E.3 Telecommunications Systems and Services

The contract for the SL1 telephone system with Pac*Tel Info Systems is due to expire in October 1997. Prior to that we will be examining options for replacing the system.

In terms of continuing efforts the following will be pursued:

- To extend and improve network management, accounting, security, and trouble-shooting tools.
- To extend support of dial-in and dial-out connections at higher than 2400 bps.
- To increase the bandwidth between critical areas and to segment the network to localize traffic and improve the reliability of the Ethernet by using redundant links and back-up power source for the network components
- To improve the speed, functionality, and ease of use of the connections between IBM mainframe, the DEC VAXes, and personal workstations.
- To extend support for Network File Services, print servers, distributed databases, distributed back-up and archiving of data, and new applications
- To extend the installed FDDI and its use as a backbone for SLAC Ethernet
- To consolidate services by phasing out older, less capable devices
- To upgrade the dial-up connection to China.
- Exploration of at-home telecommunication links for off-hours monitoring of accelerator and network operation.

All of the above are subject to funding constraints.

E.4 Video Teleconferencing

Aside from a continuation of the video teleconferencing implementation which was started in January 1993, there are no initiatives planned in this area.

E.5 Government Open Systems Interconnections Profile (GOSIP)

SLAC supports the use of GOSIP to achieve open systems interconnectivity and will use the GOSIP transition guidelines to formulate SLAC's transition plans. However, there will by necessity be a long evolutionary process from our currently in-use protocols to OSI protocols in order to minimize the disruption to ongoing research programs and ensure the lowest overall cost to DOE.

The initial goal for GOSIP is to provide intersite operability for Message Handling Systems (MHS) and File Transfer and Management (FTAM) functional requirements by October 1, 1995. The SLAC approach involves the use of gateways to supply this functionality as soon as it is reasonable. SLAC is closely following the efforts at LBL and NERSC to provide such gateways. SLAC will re-evaluate its gateway model for continued relevance in support of new GOSIP application services as new versions of GOSIP are

approved and released. As vendors begin to support GOSIP services directly on their systems, the gateways will play a smaller role. SLAC is actively participating in the DOE/ER-wide organized Field Test of DECnet/OSI, which includes SLAC, FNAL, LBL and LLNL. All current SLAC procurements comply with GOSIP standard requirements.

GOSIP Timeframe:

FY 1993	Continue testing of DECnet/OS.
	Provide experimental GOSIP Directory Service for SLAC
	Develop MHS implementation plan
	Provide experimental GOSIP Gateway for MHS services
	GOSIP Network (CLNP) Services available on some SLAC routers
FY 1994	Support GOSIP MHS gateway
	Develop FTAM implementation plan
	Support of GOSIP Directory Service for SLAC
	Acquire some systems capable of direct GOSIP services
FY 1995	Support GOSIP Gateway for FTAM services
	Acquire most systems capable of direct GOSIP services
FY 2001	Acquire all SLAC systems as GOSIP compliant

GOSIP Site Authorities for SLAC follow:

Acquisition Authority:
Hugh Steckol
Assistant Director, Business Services Division
Stanford Linear Accelerator Center
Stanford University
P.O. Box 4349, Mail Stop 2
Stanford, California 94309
(415) 926-4245
E-mail: HUGH@SLACVM.SLAC.STANFORD.EDU

Addressing Authority:
Dr. R. Les Cottrell
Assistant Director, SLAC Computer Services
Stanford Linear Accelerator Center
P.O. Box 4349, Mail Stop 97
Stanford, California 94309
(415) 926-2523
E-mail: COTTRELL@UNIXHUB.SLAC.STANFORD.EDU

Registration Authority:
Dr. R. Les Cottrell
Assistant Director, SLAC Computer Services

Protection Authority:
Hugh Steckol
Assistant Director, Business Services Division

F. IRM Accomplishments

SLAC has no accomplishments to report at this time.

G. Reconciliation

The following were noted as being significant changes over the previous year's plan:

1. Budgetary constraints have caused the cancellation of the SLAC MIE 93-1. This will affect the following schedules: 3E-1, 3E-2, and 3H-1.
2. The MIE addressed the need for data and production management capacity increases in conjunction with increased network bandwidth and improved connectability and reliability. While the deletion of this MIE may cause some adjustment in the allocation of computing resources in the short run, it is not expected to have any catastrophic impact on the energy research activities at SLAC. The experiment with the distributed model of computing is underway and has already demonstrated the feasibility of achieving marked increases in processing power using networked workstations and servers at lower cost. The expectation is therefore that it may be possible to achieve the goals of the MIE incrementally over several years once the stability of systems - hardware, software, and networking - is established. Depending upon the success or failure in meeting our goals incrementally, acquisition strategies may also be revisited for MIE 95-1 and MIE 97-1.
3. Schedule 3H-1: Due to the delays in awarding the contract for CAD/CAM upgrades, only a fraction of the money allocated in FY92 for that purpose was actually costed. This caused a significant drop in actuals from last year's plan. The majority of funds are being carried over into FY93 which accounts for the associated increase for that year. FY93 is also the first year in which SSRL Division contributed to the overall distribution of capital expenditures. The proposed replacement of the SSRL main computer system in FY95 accounts for part of the increase for Other ADPE for that year. The elimination of MIE 93-1 has resulted in modest increases over the remaining years to accomplish the incremental acquisition goals mentioned in the above paragraph.
4. Schedule 4-1A: The actual costs for FY92 increased significantly due to the upgrade required for the switch as part of the installation of voice mail. The estimated costs for FY93 have increased to reflect costs for video teleconferencing which were allocated in FY92 but which will be costed in FY93. A significant increase also occurs in FY97 to reflect the estimates for replacing the current phone system when the current contract expires in October 1997, though the method of replacement has not yet been studied.
5. Schedule 3F-1 has been eliminated from this year's plan.
6. The IBM 3081K system which was slated for removal this year will be retained. This is in part due to the cancellation of SLAC 93-1, but, more to the point, the system still provides the most cost effective means to run critical but obsolete application and system software, and to license limited use software economically. Once a decision is made regarding the disposition of the system, a new release date will be reported in a subsequent year's plan.

H. General Comments/Major Issues

The most critical issues we must address during the next five years are:

- Developing, maintaining, and running application programs in an increasingly complex distributed environment as technology rapidly changes.
- Placing the laboratory in a position to handle the needs of the next generation of physics experiments with their massive data and computational requirements.
- Preserving the investment in existing applications and leveling out and minimizing the conversion costs of existing applications to a newer base. As is sometimes the case in the scientific area, in some cases we can avoid conversions by waiting until the applications are no longer needed.
- Providing access to all institutional information for on- and off-site persons so they can perform their work effectively. This information must be managed to provide easy access and a high level of integrity.
- Moving into a multimedia desktop environment with the implied changes in workplace relations and work styles.

SLAC continues developing and testing a general technical approach to address these issues. Salient features of this approach include providing additional support for and focus on UNIX-based distributed systems and exploring the extent to which UNIX can provide the developmental and operational foundation for future experiments and a transition to the next generation of operating systems. For non-physics computing there must be site-wide networking connecting low-cost workstations that run mass market software. Central and departmental file servers are necessary for all computing access over the network. To bind the distributed system together, we anticipate using a standard TCP/IP-based network at the present time and moving towards GOSIP in the future, a common data base system such as Oracle either running on or easily accessible from every workstation, and a set of hardware, software, and data format standards.

At the hardware level the evolving network will be a combination of Ethernet, FDDI, and likely higher bandwidth links such as HiPPI, FCS, and ATM. Specialized hardware to support Oracle-type file services is also essential to provide the necessary data integrity and performance.

At present the software and hardware platforms at SLAC are simply too numerous to provide full support onto the desktop in the distributed model addressed above. In fact, it is not clear for how many different platform network interconnections can be maintained. The number of platforms which can be interconnected and supported must be limited. Counterbalancing the desire to limit network support to a few platforms is the reality that there is an enormous investment in existing applications, particularly in the areas of accelerator control, physics experiments, and administration. Personal preference and applications which are specific to a platform are extremely important considerations. Introduction of new and phasing out of old technology will take both time and considerable resources.

Certain central support activities will continue to be extended to the distributed environment. Applications such as E-mail, software distribution, and general information and directories are essential. Central support of the network and widely-used server nodes on the network are crucial to a distributed environment. A distributed technical approach also requires a change to the organization of support and management. We have been successfully experimenting with a model of support which is itself distributed. Designated end users provide the bulk of consulting to their fellow workers while central support activities are limited to coordinating this end user activity. This has worked successfully with both the telephone system and more recently with Apple Mac support. There remain enormous managerial challenges in providing an infrastructure to establish network-wide standards, to manage the information contained in the databases at SLAC, and to provide the necessary planning and coordination. A committee studied broad alternatives for future computing in these areas to propose changes to management. This report has recently been subjected to peer review by representatives from other laboratories with an expectation that it will be customized and adopted within 1993.

Several unresolved technical issues must be solved to achieve our goals. Reliable and cost-effective mass storage at the 300 Terabyte level is needed for the next generation of experiments. When accessing large amounts of data we must find a solution to the physics file management problem. There is no readily available solution to the enterprise management problem associated with the combined network, systems, and information management.We lack some integrated tools at almost every level. Present applications are labor intensive. The use of integrated tools across a distributed environment also requires significant changes in institutional work and management practices. There are no real mechanisms to provide for transition or conversion costs. Historically, attitudes and individual practices in the academic and research environments make it difficult to apply standards and achieve any sort of global optimization. Heretofore, technology prevented global optimization. This is no longer the case. Fragmented and inaccessible data along with confusion over ownership of and responsibility for data make the vision of easy access to needed information impossible. There is currently no institutionalized methodology for the administration of information. The advent of the multimedia desktop environment will permit us to explore new, more efficient, and more effective human communications.

Stanford Linear Accelerator Center
Site Long-Range Plan
Fiscal Years 1995 Through 1999

Table of Contents

Introduction to AFS

SLAC 10 Nov 1995

This page is under construction.

Here's some useful information on the *AFS* file system, touted as a replacement for *NFS*. SLAC has a test AFS up now.

The name on the left is a name the information is known by.

AFS Guide
: "SLAC AFS Users' Guide" by Bob Cook and Ilse Vinson. The place to get started with AFS at SLAC.

Stanford Consulting Resources
: Go to "AFS Information" near the middle of the page. Some information is particularly tailored to the Stanford University Campus, *e.g.*, the Stanford AFS FAQ compiled by Larry Schwimmer.

afs/faq
: The general AFS FAQ compiled by Paul Blackburn. Includes comparisons between NFS and AFS.

kerberos-faq/user
: The *Kerberos* FAQ. Includes information on the MIT and Transarc variants.

AFS Repository
: Anonymous FTP repository with information on the AFS user group, tools, programming interfaces, and products. See especially Transarc product information on AFS.

AFS-SSC.ps+
: "AFS and the Distributed File Server System at the SSC," J. Hilgart, M. Selover, and R. Mitterer, HEPiX SLAC (October 27-29, 1993), with figure+.

You may also find the ESnet Coordinating Committee's " Report of the ESCC Andrew File System (AFS) Task Force" and the alt.filesystems.afs newsgroup interesting.

+ Access to this link is restricted to SLAC users.

This page grew out of discussions with Mark Barnett and Larry Schwimmer.

Winters; Boeheim

Computing Futures at SLAC

SLAC 17 May 1995

Following are documents on computing "futures" related to SLAC. The first section treats files at SLAC; the second, pointers to other information at SLAC; and the third, sources of useful information elsewhere.

As we move into the future, new files will appear here and old ones, disappear.

Files at SLAC

The name on the left is the file name at SLAC, which is in the `/usr/local/doc` subdirectory* indicated by the section title, e.g., `futures`. This page will change as we continue reorganizing `/usr/local/doc` space. Some file names will change.

`futures`

Work to flesh out the model of future computing at SLAC:

Mac-report1995/*
: Final report of the Mac Pilot Committee and supporting documents (April, 1995). Select this copy to see an HTML version of the report only or if you are not at SLAC.

VM-phaseout-Oct1994.ps*
: Final report of the VM Phase-Out Committee identifying services that must be developed to replace essential VM functionality (October, 1994). Or view, *e.g.*, on VM, the plain text* version.

committees-Apr1994.ps*
: List of the computing futures committees at SLAC as of April, 1994, with their members and charges. See also the chart* of their relationships.

user-workstations-Apr1994.ps*
: Viewgraphs from Les Cottrell's presentation to the Key Managers, April 12, 1994, "SLAC Desktop User Workstations," including a status report on the survey of users with character-mode terminals.

Reports from and presentations to the SLAC Computer Advisory Committee (SCAC), also known as the "Butler Committee" or the [SLAC] Visiting Computer Advisory Committee, whose charge is to advise on SLAC's near and medium-term computing needs:

SCAC-report-Dec1993*
: "Report of the SLAC Computer Advisory Committee" (December, 1993).

SCAC-talk1993-VM.ps*
: "Plans for Running Down VM," Les Cottrell (October 11, 1993).

SCAC-talk1993-VMS.ps*
: "Minimum Support Levels for VMS," Charles Granieri (October, 1993).

SCAC-talk1993-network.ps*
: "SLAC Network Strategy," Les Cottrell (October 8, 1993).

SCAC-talk1993-trends.ps*
: "Following Computer Trends," Les Cottrell (October, 1993).

SCAC-report1993*

"Report of the SLAC Computer Advisory Committee" (August, 1993).

You may also find the following newsgroups with commentary on the reports interesting: slac.scac.dec93 and slac.scac.aug93.

Other reports:

5-year-plan-sec1.ps*
: "Stanford Linear Accelerator Center Site Longe-Range Plan: Fiscal Years 1995 through 1999," Section 1 (February, 1993). Contains information about last year's achievements as well as plans for the future. Section 2 is only available in hardcopy. (Contact Ilse Vinson.)

fcs.ps*
: "Future Computing at SLAC," The Ad Hoc Committee on Future Computing at SLAC (27 March 1992).

Other Information at SLAC

You may also find the following information on HEP computing useful: European-computing-Dec1993. (To print a copy, get the Postscript version.)

Press here to go to the SLAC Home Page.

Information Sources Elsewhere

Here're some other sources of useful information. The name on the left is a name the information is known by.

NII
: Initial documents on the US government's National Information Infrastructure. See the government's NII and Merit's NREN GopherSpaces for current activities.

Gore-Billington Conference
: "Delivering Electronic Information in a Knowledge-Based Democracy" at the Library of Congress, July 14, 1993.

HPCC
: Home page of the National Coordination Office (NCO) for High Performance Computing and Communications (HPCC). Includes the FY 1996 Blue Book on "... Foundation for America's Information Future."

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* Access to all files in the `/usr/local/doc` subdirectory is restricted to SLAC users.

Winters, Ilse

Introduction to PCs at SLAC

SLAC 21 Oct 1994

This page is under construction.

PC users at SLAC share information, develop standards, and provide mutual support via the PC Support Group (PCSG). This has scheduled meetings the second and fourth Tuesdays of the month at 1:30 p.m. in the Computer Group Building, Conference Room B. Announcements, questions, and other information are also communicated via the SLAC newsgroup, `slac.users.ibm-pc`.

Then too, you may rummage about an OS/2 SLAC anonymous FTP server* for PC documentation, programs, and drivers, along with general interest files like images and government documents.

If you are planning to buy a PC, check out the recommended standard configuration. Terms used there are defined in the PCSG glossary. Or call Purchasing.

The public PC in the Lobby of the Computer Group Building contains locally a written tutorial. See the "Guide to Using OS/2 at SLAC" in HELP Information:SLAC.INF on the Desktop.

Don't forget to backup your disks. Use WDSF to backup your hard disk for now. Migration to ADSM, IBM's follow-on to WDSF, is planned in the next few months.

You may also find the general SLACwide computing introduction of interest.

Information Sources Elsewhere

To find out what's happening with the popular WWW GUI browser for PCs, NCSA Mosaic for Microsoft Windows, check its home page. That contains material on viewers and other needed code, too.

Here're some other sources of useful information. The name on the left is a name the FAQ is known by.

os2-faq
: "OS/2 Frequently Asked Questions List: User's Edition (U.S. English)", which treats the fundamentals of hardware, software, and maintenance, along with aspects of current releases like OS/2 for Windows. Includes a list of anonymous FTP sites for OS/2 software. See also the related newsgroups, `comp.os.os2.misc` and `comp.os.os2.apps`.

pcnfs-faq
: "NFS & TCP/IP FAQ for PCs and Macs". Includes information on products to support the X Window System and comparisons of TCP/IP implementations. See also the related newsgroups, `comp.protocols.nfs` and `comp.protocols.tcp-ip.ibmpc`.

windows-com-faq
: "The 16550A UART & TurboCom Drivers" FAQ on improving the performance of network connections for Windows 3.0 (or later) or DOS. See also the related newsgroups, `comp.dcom.modems` and `comp.sys.ibm.pc.hardware.comm`.

msdos-archives/faq
: "Frequently Asked Questions of the InterNet newsgroups `comp.archives.msdos.announce` and `comp.archives.msdos.d`", which treat MS-DOS PD, shareware, and other archived material.

msdos-programmer-faq
: FAQ that focuses on language products and programming the hardware for MS-DOS systems. See also the related newsgroup, `comp.os.msdos.programmer`.

You may also find the following sources useful: IBM Almaden Research Center.

Support

PCs at SLAC are supported by PC Support Coordinators and the SCS PC Workstation Support staff.

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* Only the MidasWWW browser suppports access to non-UNIX FTP servers like this.

Cathie; Winters

Index of /archive/1995/how-to-order

Name	Last modified	Size	Description
Parent Directory	05-Feb-1997 21:09	-	
SCSI-drive	28-Jan-1994 16:06	6k	

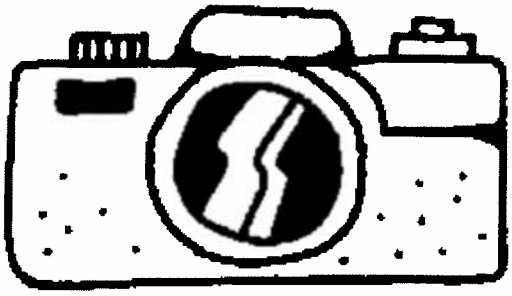
Apache/1.3.12 Server at www.slac.stanford.edu Port 80

Index of /archive/1995/todtw

Name	Last modified	Size	Description
Parent Directory	05-Feb-1997 21:09	-	
95Sched.html	07-Apr-1995 15:30	1k	
AUTOMO15.gif	07-Apr-1995 10:50	2k	
EQUIP129.gif	07-Apr-1995 10:50	2k	
HandsOn1.html	07-Apr-1995 15:35	1k	
HandsOn2.html	07-Apr-1995 15:33	1k	
HandsOn3.html	07-Apr-1995 15:31	1k	
HandsOn4.html	07-Apr-1995 15:31	1k	
HandsOn5.html	07-Apr-1995 15:31	1k	
HandsOn6._html	07-Apr-1995 12:18	1k	
HandsOn6.html	07-Apr-1995 15:20	1k	
HandsOn7.html	07-Apr-1995 15:38	1k	
HandsOnReg.html	07-Apr-1995 15:31	1k	
PLACES15.gif	07-Apr-1995 10:51	1k	
Particle_Collision.gif	07-Apr-1995 10:51	14k	
RegForm.pdf	05-Apr-1995 12:54	14k	
RegForm.ps	06-Apr-1995 21:32	704k	
SKILL032.gif	07-Apr-1995 10:51	8k	
SUMMER07.gif	07-Apr-1995 10:52	2k	
TODTW.html	26-Apr-1995 15:01	4k	
creation/	03-May-1995 10:20	-	
daughterswaving.gif	05-Apr-1995 12:51	55k	
todtwdhead.gif	06-Apr-1995 21:26	3k	

Apache/1.3.12 Server at www.slac.stanford.edu Port 80

TAKE OUR DAUGHTERS TO WORK DAY



1. What is THAT in My Beam Line?

with Julia Weinberg

We will use a borascope, which is a tiny camera on a long cable, to look inside vacuum components. We will take turns moving the camera and we will view the inside of the chamber on a TV screen. Together we will identify many common and some uncommon items "left behind" in the chamber.

Back to Hands On Registration.

Back to the Take Our Daughters to Work page.

Last Updated Fri Apr 7 10:00 PDT 1995 by *Eldridge-Diaz*

Index of /archive/1995/www

Name	Last modified	Size	Description
Parent Directory	05-Feb-1997 21:09	-	
create.html	06-Mar-1995 21:22	1k	
playpen.html	26-Jul-1995 20:39	3k	
resource.html	20-May-1995 00:54	7k	
template.html	10-Feb-1995 16:35	3k	
void.html	06-Mar-1995 13:04	1k	
whatsnew.html	27-Nov-1995 15:07	25k	
wwwintro.html	06-Aug-1995 20:27	8k	
wwwtech.html	21-Apr-1995 10:28	1k	

Apache/1.3.12 Server at www.slac.stanford.edu Port 80

SLAC Page-Design Playpen

SLAC 26 Jul 1995

This page is under construction.

This page is to provide access to page authors' experiments with various forms of information design. Pages currently being tried out are:

slacu-index.html
: SLAC Home Page with an introductory, two-level table of contents. By Cottrell.

slac.html
: SLAC Home Page with an introductory, one-level table of contents and shorter introduction section. Now the production version. By Winters.

[test] slac.html
: Test SLAC Home Page with draft menu bars top and bottom. By Winters.

slac-menu.html
: SLAC Home Page with menus bars at top and bottom and section headings with links to the Table of Contents. By Cottrell.

slac-updown.html
: SLAC Home Page with menus bars at top and bottom and section headings with [Top|Up|Down|Bottom] menu. By Cottrell.

wwwtech.html
: Page on the SLAC WWW Technical Committee with another cut at top and bottom menu bars. By TonyJ.

slacacc.htmlx
: An introduction to SLAC, the institution, for Accelerator Physics. Includes a number of images. Not to be confused with the regular SLAC Home Page for people working in and around SLAC. By Whittum.

template.html
: Draft reference page with proposed minimal standards for SLAC WWW pages. (SLAC disclaimer still to be addressed.) By Winters.

Please send comments to the page's author or to me.

Press here to go to the production SLAC Home Page.

Winters

WorldWideWeb--SLAC Introduction

SLAC 17 Jun 1995

SLAC uses the WorldWideWeb (WWW) service to provide access to a wide range of material at SLAC and elsewhere around the globe. Some information is presented as hypertext. With it you may not only read a screen from beginning to end, but also jump to related information from highlighted text like this if you select it with your mouse (GUI) or enter the attached number (line-mode). When you come to the end of a WWW page, move the scroll bar down (GUI) or press the "enter", or sometimes the "return", key (line-mode) to get to the next page.

WWW provides access to many information sources other than hypertext screens. You may directly query data bases like SPIRES and Oracle, view Netnews items and plain text files, explore FTP, and other network information systems, look at images and movies, listen to speeches, and invoke commands--as these sources have been made accessible to WWW. See the Internet and SLAC Home Page (links below) for two collections of hypertext links to many of these services. Material from remote locations is retrieved over the Internet and may actually reside almost anywhere in the world. The point of origin is often not communicated to you.

WWW is a highly distributed, client-server application. You use a client called a "browser" (like MidasWWW or Mosaic for Macintosh) to see WWW information. Several browsers are available, which support GUI or line-mode style for various platforms including UNIX, Macintosh, NeXT, PC, VM, and VMS.

WorldWideWeb information is particularly dynamic. Over time links may move around on a page, migrate to others, or be removed entirely as more appropriate locations are found, links become obsolete, or they are superceded by improved ones. See What's New for updates to SLAC's WWW pages, Major Changes for more system-related modifications, and SLAC WWW Server Statistics for usage data.

Other SLAC Introductory Information

You may find the following panels helpful in learning about SLAC and related resources that have been made available to the WorldWideWeb:

SLAC
: The institution. Or take a physical tour.

Computing
: Some general information.

HEP Using the HEP SPIRES database.

Macintosh
: Getting started with the Macintosh.

PC Getting started with PCs.

UNIX Getting started with UNIX and AFS.

Internet
: Roaming the Internet.

Local Area
: Finding out about local area resources.

Other Introductory Information

Here're some other panels to help learn about WWW:

FAQ Frequently asked questions and answers about WWW
Bibliography
    Introductory annotated bibliography on WorldWideWeb
Cyberspace Guide
    "Entering the World-Wide Web: A Guide to Cyberspace," a compendium of WWW information from Kevin Hughes. Covers introductory through reference material.
Other To be announced...

SLAC Home Page

The SLAC Home Page is a view of the WorldWideWeb from SLAC. A good place to start working on the Web is from its SLAC Information (Including SPIRES) section and subsequent ones.

This page is intended for "learners" about WWW at SLAC and evolved from part of the original SLAC Home Page.

Disclaimers, Copyright, and Other Fine Print

Winters

The SLAC WWW Technical Committee

SLAC 21 Apr 1995

The SLAC WWW technical committee is an ad-hoc group of people who meet approximately weekly to discuss technical (as opposed to stylistic, aesthetic, content or policy) issues related to the provision of WWW services at SLAC. The meetings are open to anyone interested in discussing these technical issues. You can communicate with the committee by sending e-mail to `www-tech@unixhub`. If you are interested in receiving the minutes and other discussion concerning this committee you can subscribe to this list using Majordomo.

Regular attendees include:

- Louise Addis
- Pat Clancey
- Les Cottrell
- John Halperin
- Kathryn Henniss
- Tony Johnson (chair)
- Pat Krietz
- Bebo White
- Joan Winters

Minutes

No minutes are available, however informal notes are kept, as well as a list of current action items.

Hot Topics

- A memo describing recommended conventions for creating new URL's on SLAC's central WWW server
- The draft privacy memo

TonyJ

Index of /archive/1995/wwwproto08

Name	Last modified	Size	Description
Parent Directory	05-Feb-1997 21:09	-	
@playpen.html	19-Aug-1995 20:20	6k	
ackjmw.html	09-Aug-1995 04:04	1k	
admjmw.html	08-Aug-1995 13:18	1k	
aslajmw.html	08-Aug-1995 13:18	2k	
ccjmw.html	08-Aug-1995 13:19	2k	
elsejmw.html	08-Aug-1995 13:20	5k	
fpejmw.html	09-Aug-1995 04:07	14k	
infojmw.html	08-Aug-1995 13:21	3k	
opsjmw.html	08-Aug-1995 13:18	2k	
orgjmw.html	08-Aug-1995 13:31	2k	
ospjmw.html	08-Aug-1995 13:20	1k	
phonejmw.html	08-Aug-1995 13:21	2k	
phonesea.html	12-Aug-1995 12:16	2k	
physjmw.html	08-Aug-1995 13:20	2k	
playpen.html	01-Sep-1995 14:01	6k	
resource.html	09-Aug-1995 12:48	8k	
search.html	08-Aug-1995 13:22	2k	
slacinst.html	08-Aug-1995 13:17	7k	
slacintr.html	08-Aug-1995 13:21	5k	
sparjmw.html	08-Aug-1995 13:22	2k	
sparsjmw.html	08-Aug-1995 13:22	5k	
suggest.html	08-Aug-1995 13:12	2k	
whatsnew.html	08-Aug-1995 13:13	21k	
wwwcen.html	09-Aug-1995 09:10	1k	
wwwcore.html	09-Aug-1995 12:52	4k	
wwwcore.htmlptr	30-Aug-1995 14:47	1k	
wwwintro.html	08-Aug-1995 13:22	6k	

Apache/1.3.12 Server at www.slac.stanford.edu Port 80

Getting Started at SLAC

8 Aug 1995

[People | Dense Home | Sparse Home | Sparser Home | Search | Getting Started | The Lab]

This page is under construction.

Welcome to SLAC!

Here're some documents on diverse subjects to help you get started. Most of the following items provide functional information. Near the bottom there's a link to SLAC from an organizational perspective.

First off, if you're not familiar with using the World Wide Web (WWW), select this WWW--SLAC Introduction hypertext link.

About SLAC

SLAC
: The institution. Or take a physical tour. Here're some maps.

Local Area
: Finding out about local area resources.

On SLAC Research Programs

BABAR$
: The BABAR Detector to study *CP*-violating asymmetries in the decays of neutral *B* mesons.

PEP-II
: The PEP-II Asymmetric B Factory to enhance the current linac accelerator for BABAR.

SLD
: The SLD experiment in Z particle physics.

Life at SLAC
: To help visiting researchers get settled in quickly.

On Information from SLAC (including SPIRES)

HEP
: Using the very popular HEP SPIRES database.

On SLAC Operating Facilities

???$

On SLAC Computing and Communications

Computing
: Some general information.

Macintosh
: Getting started with the Macintosh.

PC
: Getting started with PCs.

UNIX
: Getting started with UNIX and AFS.

Internet
: Roaming the Internet.

On Other SLAC Programs

ES&H Manual
: The *SLAC Environment, Safety, and Health Manual* on employee health and safety in the workplace.

Science Education
: Educational programs for various levels and associated materials.

On SLAC Administrative Processes

Admin Handbook
: The *SLAC Administrative Services Handbook* on administrative resources and services, including printable versions of many of SLAC's forms.

On the SLAC Organization

Org chart$
: The SLAC organizational chart.

SLAC Core Pages

When you're ready for an overview of the World Wide Web from SLAC, take a look at our Home Page.

There are actually two versions, a sparse and a dense one, because people work in different styles: Sparse Home or Dense Home.

Another good place to start is the introduction to The Lab, designed for visitors and those new to the institution.

See also a summary of links to other places of particular interest to SLAC: Useful Information Elsewhere.

[What's New | WWW Resources | Test Home | Suggestions | Stanford]

[Sparse Home]

Disclaimers, Copyright, and Other Fine Print

Winters

SLAC Research Programs

8 Aug 1995

[People | Dense Home | Sparse Home | Sparser Home | Search | Getting Started | The Lab]

Particle Physics Experiments

- BABAR
- BES
- E143
- E144
- E154
- mQ
- SLD

Synchrotron Radiation

- [major initiatives]$

Accelerator Research & Development

- NLC
- NLCTA
- PEP-II
- More Accelerator Physics

Theoretical Physics

- Interests

[What's New | WWW Resources | Test Home | Suggestions | Stanford]

[Sparse Home]

Winters

Index of /archive/1995/wwwprototemp

Name	Last modified	Size	Description
Parent Directory	05-Feb-1997 21:09	-	
ackjmw.html	17-Sep-1995 02:18	1k	
admjmw.html	17-Sep-1995 02:15	1k	
aslajmw.html	17-Sep-1995 02:27	2k	
ccjmw.html	17-Sep-1995 02:30	2k	
elsejmw.html	17-Sep-1995 02:35	5k	
fpejmw.html	04-Oct-1995 17:51	14k	
infojmw.html	17-Sep-1995 02:41	3k	
opsjmw.html	17-Sep-1995 02:45	2k	
orgjmw.html	17-Sep-1995 02:51	2k	
ospjmw.html	17-Sep-1995 02:49	1k	
phonejmw.html	17-Sep-1995 02:54	2k	
phonesea.html	17-Sep-1995 02:56	2k	
physjmw.html	17-Sep-1995 03:00	2k	
playpen.html	17-Sep-1995 01:53	6k	
resource.html	17-Sep-1995 03:54	8k	
search.html	17-Sep-1995 03:13	2k	
slacinst.html	17-Sep-1995 03:15	7k	
slacintr.html	17-Sep-1995 03:19	5k	
sparjmw.html	17-Sep-1995 01:57	2k	
sparsjmw.html	17-Sep-1995 04:05	5k	
whatsnew.html	17-Sep-1995 03:30	21k	
wwwcen.html	09-Aug-1995 09:10	1k	
wwwcore.html	09-Aug-1995 12:52	4k	
wwwintro.html	08-Aug-1995 13:22	6k	

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