

INTERFACE



Center for Information Technology • National Institutes of Health

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Http://www.nih.gov is one of the most frequently visited federal government Web sites.

	<i>February</i>	<i>March</i>	<i>April</i>
Total hits for the month	44,246,867	47,083,514	46,632,689
Hits per day	1,580,245	1,518,823	1,554,422
Number of different individuals	422,917	450,614	451,163

Server has been up 100% for 688 consecutive days (as of May 28, 2002).

Articles

Perry Plexico Retires from CIT after 40 Years of Service At NIH

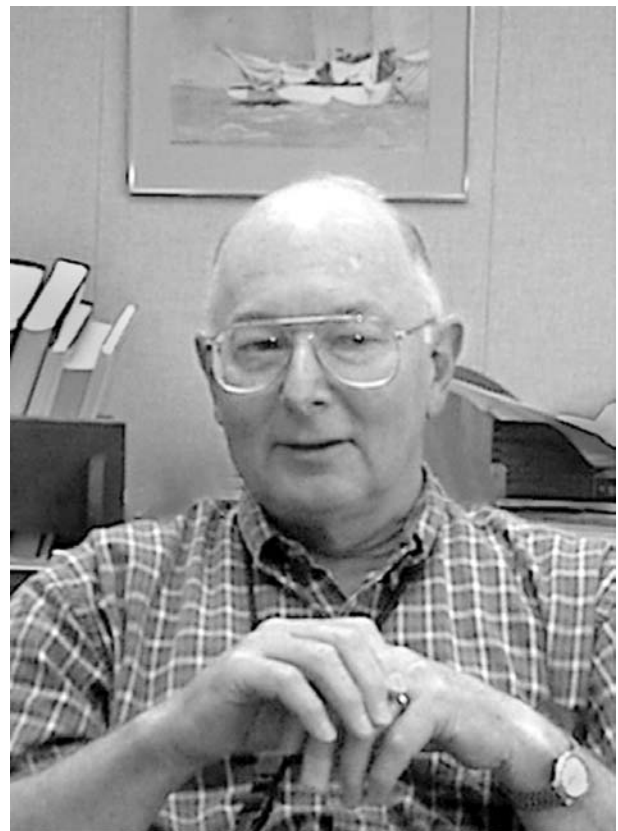
CIT's Deputy Director, Perry Plexico, retired this past February after a long and distinguished career at NIH. His career at NIH includes many "firsts" in the development of computer technology. CIT and NIH are richer for Perry's wealth of experience and exemplary leadership.

In at the Beginning

Perry was present almost from the beginning of computing at NIH. Back in 1962—before the Internet, palm-pilots, cell phones, or personal computers—NIH hired a young engineer named Perry Plexico. With the ink still wet on his University of Maryland diploma, Perry found himself in the new Computation and Data Processing Branch (CDPB), Division of Research Services. Headed by Hank Juenemann, CDPB was trying to persuade NIH's scientific staff to use computers for recording and analyzing their data.

At the time, NIH scientists used various systems that did not operate efficiently with each other. NIH wanted to find a way to use the new technology of computers to help streamline the scientific process. Perry's new job was to help put this new technology directly into the hands of the NIH scientific community, which he succeeded in doing. Mr. Juenemann later recalled—in a letter written for Perry's retirement—that Perry had

- rescued Building 2 (one of the NIH's original scientific laboratory buildings) from being swamped with paper tape
- installed a computer system in an NHLBI laboratory that permitted scientists to analyze data in real time during an experiment
- enhanced the Laboratory Instrument Computer or LINC family of small computers so they would fit different scientific research situations
- achieved many other "firsts" in the burgeoning field of computer technology



Over the Years

As the technology he helped initiate at the NIH continued to progress, so did Perry. In the 1980s he was the Computer Systems Laboratory Chief for the Division of Computer Research and Technology (predecessor to CIT). In the early 1990s he became director of the NIH Computer Center. From 2000 until his retirement, Perry served as the Deputy Director and Chief Operating Officer for CIT, helping to chart its overall direction, strategic development, resource allocation and financial performance.

Retirement and Beyond

The sentiment expressed in the closing line of Hank Juenemann's letter is shared by the many NIHers who have had the pleasure of knowing Perry and working with him "...your 40 years of successfully plowing new ground has earned you the respect of all who came to honor you...."

Though Perry has retired, he has not abandoned us. He has agreed to continue to contribute to CIT and share his wisdom with us—although part time. So don't be surprised if you see him around the building 12 complex. And, your e-mails will still reach him.



CIT Names New Deputy Director



Dr. Gary G. Christoph, Ph.D., is the new Deputy Director for the Center for Information Technology (CIT). Dr. Christoph, who will also serve as CIT's Chief Operating Officer (COO), will provide both vision and overall technological, operational, and managerial leadership to CIT. He will perform a full range of managerial functions for CIT including planning, coordinating, allocating, and assessing resources.

Dr. Christoph, commenting about his new position, says that "Having been a researcher and scientist most of my life, I think I appreciate the kind of IT support a scientist wants and needs. My goal is to make sure that CIT delivers the best world-class IT support to NIH's researchers."

Before joining CIT, Dr. Christoph served as first Chief Information Officer and Director, Office of Information Services, for the Center for Medicare and Medicaid Services (formerly the Health Care Financing Administration), Department of Health and Human Services. He holds a doctorate in chemical physics from the University of Chicago.

CIT Welcomes Chief Information Technology Architect for NIH

Dr. John F. (Jack) Jones, Jr., recently joined CIT as Chief IT Architect for NIH. Dr. Jones initially will focus on NIH enterprise systems critical to the mission of NIH. His goal is to optimize the usefulness of current IT systems and services to support the business of the NIH mission, and he looks forward to working closely with NIH institutes and centers (ICs).

Before coming to CIT, Dr. Jones served as Senior Advisor for Cybersecurity to the Secretary, U.S. Department of Energy. He has also served as Chief IT Architect for the Sandia National Laboratories. He holds a doctorate in aeronautical engineering from Stanford University.



“Ask TASC”—About BlackBerry

TASC receives many calls each day from customers who are experiencing similar problems. In each issue of *Interface*, we pass on the answers to questions customers frequently ask. We hope you find this information helpful.

Q: What is a BlackBerry?

A: The BlackBerry is a handheld “personal digital assistant” that provides users with the ability to send/receive wireless e-mail in “real-time.” Imagine being able to check and respond to your e-mail from remote locations without having to plug in your laptop or find a computer somewhere with an Internet connection.

BlackBerry also allows a user to remotely access and manage Contacts, Calendars, Tasks, and Notes as well. The unique feature of the Calendar service is that it is also synchronized wirelessly like e-mail, so additions and deletions to your schedule are updated in “real time.” There are two sizes of BlackBerry handheld devices – smaller, pager-sized devices (models 850/950) and larger, palm-sized devices (models 857/957/5810).

Q: What do I need to have before considering using a BlackBerry?

A: NIH BlackBerry users will need to have an MS Exchange e-mail account to utilize the BlackBerry Service. Ask your mail administrator if you are not sure what kind of account you have.

Q: Can I use BlackBerry with my Macintosh computer?

A: The answer is yes and no. While there is no desktop software at present designed for a Mac operating system, Mac users can work around this by creating an initial setup of their handheld on a PC, synchronizing the device, and then periodically recharging (957 model only) by connecting to the PC. We recommend that you first consult with your local technicians before attempting to setup this configuration.

Q: Can I read e-mail attachments on the BlackBerry handheld?

A: Yes. Forward the e-mail with the attachment to *text@nih.gov* and then the attachment will be converted to text and sent back to your handheld. Among the attachment file formats that can be converted are Word, Excel, PDF, WordPerfect, and Web pages.

Q: Can I get my e-mail on my handheld anywhere?

A: A BlackBerry is similar to a cell phone in that there are good and bad cell areas depending on the wireless network's coverage area. The BlackBerry Web site provides a link to the wireless network's coverage maps to help you if you plan to use the device out of town.

Q: Speaking of cell phones, can my BlackBerry receive phone calls?

A: The newest model of the BlackBerry handheld (model #5810) does have cell phone capability. Please be aware that this technology is brand new and has different functionality issues that should be addressed before considering its use. We recommend writing an e-mail inquiry to *sanswire@mail.nih.gov* before making a decision on whether or not the 5810 model is right for you.

Q: Does NIH host a Web site for information on the NIH BlackBerry service?

A: Yes. The NIH Central Email Service (CES)—which hosts the NIH CES Blackberry Service—provides an excellent Web site providing FAQs, tips, links to software downloads, and other detailed information. Go to the CES Web page [<http://mail.nih.gov>] and click on the link for "Wireless Services."

See the article, "Safe in the Palm (Pilot) of Your Hand—Advice on Securing Portable Systems," in *Interface* 222 (March 4, 2002).

If you have any questions please call TASC, and a consultant will be happy to help you.

We welcome your ideas about topics in future editions of "Ask TASC." Please send suggestions to *TASC@mail.nih.gov*.



Implementation of NBRSS Is on Schedule

Progress is continuing on the implementation of the NIH Business and Research Support System (NBRSS), which includes the NIH Business System (NBS) and the Enterprise Human Resources and Payroll system. Both the NIH business and scientific communities will begin using portions of the NBRSS later this year. Full deployment of this system is scheduled for 2004. See *Interface* issues 221 (December 17, 2001) and 216 (December 15, 2000).

The current work on the NBS includes:

- **Business Processes**

The design of future NIH business processes is almost finished – development, review, and nearly all approvals have been completed by the NBS Functional Advisory Committees (leaders from the ICs and OD, who oversee the implementation of a specific functional component). Completion of this stage marks the acceptance of the best practices for conducting administrative business at the NIH. The NBS Team now has a clear blueprint of the system’s final structure.

- **Configuration of Oracle Software**

The six Functional Teams – financial management, property, travel, acquisition/supply, service and supply fund, and research and development contracts – together with KPMG Consulting (the systems integrator) are currently adapting the Oracle software that will support the new work processes and determining the process variations for testing each one.

- **Testing the Configuration**

All configuration decisions will be verified over the course of two pilot testing sessions during which the functional teams and KPMG will configure, test, and make any necessary adjustments to the work processes. Currently, all functional teams are developing test scenarios and scripts to ensure that the Oracle application performs as planned.

First Pilot Session

All six Functional Teams are making preparations for testing individual work processes within their respective business area to make certain that each will function correctly as a unit. Any modification made to a business process will prompt retesting to ensure that the desired results are achieved.

Second Pilot Session

Future testing will ensure that the software effectively integrates all of the NBRSS business functions. At this juncture, Resource Teams (representatives from each IC who serve as advisors to the functional teams) may be asked to participate and provide input.

Interfaces between the various business functions – and between the ADB and NBRSS – will also be tested to verify their effectiveness. In addition, system administration will be tested to evaluate cross-

functional integration of workflow, including human resources. Finally, data conversion and interfaces between the NBRSS and ADB will be fully tested using live data when feasible.

First Systems to “Go Live”

- **EHRP**

With implementation targeted for this summer, the EHRP will become the first NBRSS production system. The HHS Program Support Center (PSC) will provide official training to the NIH Community before the system goes “live.”

To get ready, some 280 administrative, supervisory, and managerial staff members from ICs— including NCI in Frederick, Maryland, and NIEHS in North Carolina— have been participating in EHRP system demonstrations given by the EHRP Team. Another 203 human resources personnel have gotten a “feel” for the new system in EHRP/PeopleSoft hands-on workshops, where they could work through sample personnel actions. These workshops are a prelude to the full-scale PSC training later this summer.

- **Financial Management – October 2002**

The General Ledger portion of the financial module is scheduled to go “live” this coming October. Some staff from the Office of Financial Management will begin training in August.

Want to Know More?

For information, comments, or questions about the NBRSS project, contact Marina Gregory at gregorym@mail.nih.gov, or visit the NBRSS website [<http://nbrss.nih.gov/>].



CIT Has a Web-Based “Service Request” System for All Platforms

The CIT “Service Request” allows people to report problems or request assistance on any platform. To enter a Service Request, go to the CIT Customer Support Web page [<http://support.cit.nih.gov>] and click on the link, “Create a Service Request Online.” You will first be asked to update “Customer Information.”

OS/390 Users

To report problems and request assistance, OS/390 users should use this “Service Request” instead of the older “Service Request Ticket” (SRT) Web page.

Requests to the old SRT Web address will be redirected to the new “Service Request” for several months, before the old link is removed from the system. Please update your old bookmark [http://datacenter.cit.nih.gov/srt] with the Customer Support Web page.

If you have any questions, please contact TASC.



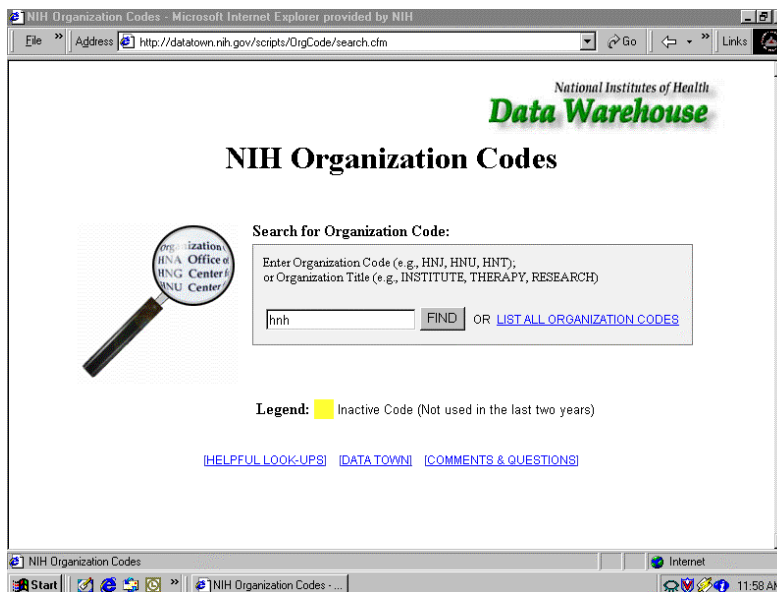
NIH Data Warehouse—Helping You With Codes and Descriptions

Every day we use many codes to perform our job. Now the NIH Data Warehouse offers one place to retrieve the codes we need along with their description and other related information—in tools that will search for the information you need.

The tools are listed in “Helpful Look-ups” – a link on the Data Town Web page [http://datatown.nih.gov/dw/datatown.htm].

Click on the tool you need, enter either a code *or* description, and the search instantly gives you the relevant information.

For example, the “Organization Codes” tool search screen (right):



List of “Helpful Look-up” Tools

<i>Tool</i>	<i>Information Displayed</i>
Object Class Codes	- object class code, description, and major description
Property Class Codes and Manufacture Codes	- code, description/ name, entry date, last update date, clerk ID, and usage status
Organization Codes	- organization code, IC, organization initials, and organization title
Nodes	- node, IC, primary contact name, and primary contact phone number
Nature of Action Codes	- NOAC code, NOAC definition, and NOAC type
Common Accounting Number	- IC, fiscal year, project CAN, and project CAN description

You do not need to register to use the “Helpful Look-up” tools. They are available to everyone.

More Information

Additional information on these enhancements—or future plans—may be found in “DW News,” a link from most DW Web pages. If you have any questions or concerns, please contact TASC.



NBARS Users—New Client Software for File Servers and PCs Running Windows

A new version of client software for the NIH Backup and Recovery Service (NBARS) is now available for downloading. The software—Tivoli Storage Manager (TSM) 4.2.120—offers backup and recovery services on the Windows platform (Windows 95/98, NT, 2000), whether a file server or a personal computer. This TSM client is configured for use in the NIH environment.

Features of TSM for Windows

- **Backup-archive client interface** allows users to initiate backups or restores of data on their PCs or file servers
- **New security feature** allows authorized administrators, helpdesk staff, or users to back up and restore data via a Web browser without having direct access to the data

-
- **Administrative client** (command line, Web browser) allows administrators to define storage management policies for files and to set up schedules for automated backup and archive services

Downloading the Software

To download the TSM client configured for NIH, go to the NBARS Web page [<http://silk.nih.gov/silk/nbars>] and select the link, "Client Software." The version 4 client software and installation instructions are listed for the Windows platform.



CIT's Software Distribution Project—Open Agreement for Crystal Decisions

Crystal Decisions software products are now available to all of NIH and HHS at deep discounts through CIT's Software Distribution Project (SDP). Crystal Decisions provides reporting, analysis and information delivery products that are Web-based, easy to use, scalable, and interactive.

This agreement includes Crystal Analysis, Crystal Reports, Crystal Enterprise, training and other products.

- **Crystal Analysis**
A front-end on-line analytical processing (OLAP) product, Crystal Analysis combines analysis of patterns and trends in large amounts of data with easy interactive publishing on the Web.
- **Crystal Reports**
Crystal Reports can be used to create complex reports from diverse data sources and to distribute them for interactive viewing on desktops or browsers.
- **Crystal Enterprise**
This customizable Web-based tool organizes information from a wide variety of databases, and distributes powerful, interactive reports to end users via intranets, portals, or the Internet.

By connecting many sources of information, organizing data in interactive formats, and rapidly distributing reports throughout an organization, these Crystal Decisions products help decision-making, improve organizational productivity, and reduce IT costs.

For more information about the Crystal Decisions Open Agreement, including a product catalog and purchasing information, please visit the SDP Web site [<http://sdp.cit.nih.gov>].



A Very Successful Disaster Recovery Test by the NIH Computer Center in March

CIT's hot-site test on March 27, 2002, was the most successful so far for all participants.

On March 26, CIT successfully restored all systems in record time and had them operational with network connectivity much earlier than in previous tests. The dedicated T1 line connecting NIHnet to the hot site in New Jersey was operational without a hitch. Thus, everything was ready for customer testing on the morning of March 27.

Customer testing on the OS/390 Titan and South systems and EOS went smoothly—the few minor glitches were easily surmounted. Several customers were able to compare their disaster recovery test results against prior production runs. This was possible because the tapes used for the disaster recovery test predated the production runs. The comparisons showed an exact match, verifying the capability of the remote site to carry on NIH and HHS business in the event of a disaster.

The next disaster recovery test is scheduled for November 13, 2002.



Oracle Licenses—New Way to Get Software, Upgrades and Maintenance

In 1997, CIT negotiated an NIH-wide Oracle network license that permits the purchase of concurrent user rights and server software for Oracle databases on the various platforms at the NIH Computer Center. This enabled CIT to provide NIH users with low costs for Oracle database software, upgrades and Oracle support.

On April 30, 2002, CIT's Oracle network license expired, and software obtained through it is no longer supported. Since Oracle has changed the way it licenses server software—that is, it no longer uses “concurrent devices” connecting to a server as a measure of pricing—CIT will not be acquiring any new licenses for NIH-wide use.

CIT has already notified NIH users who have purchased Oracle database concurrent-user rights for use on their own servers. These users can choose to continue use of the rights after April 30, but without upgrades or support from either CIT or Oracle. An arrangement must be made directly with Oracle to continue maintenance for these concurrent-user rights after April 30.

Obtaining Licenses and Software

To buy new Oracle database licenses or other Oracle software, all organizations within HHS can purchase them at a discount through HHS, which has negotiated a contract with Oracle to facilitate purchases of Oracle products at a significant discount. Product pricing under the HHS contract is based on the size of the server running the software. An Oracle sales representative can assist you in making use of this contract.

If you need more information or have any questions about Oracle licensing, please contact TASC.



CIT's Web Development Team Can Enhance Your Web Presence

Who could have foreseen five or six years ago that the Web would become such an integral part of our daily business? Web pages have become the "face" our institutes, centers, offices, or labs show to the public. We should ensure that the "face" we show visitors gives the right impression—information that is reliable and up to date, displayed in a professional and attractive manner, and organized so that visitors can easily find information.



CIT's Web Development Team can help if your group does not have the time, knowledge, or money to create or improve your Web presence. Our program helps labs and offices of any size create a professional and attractive Web site at a minimal cost (we operate on a cost-recovery basis). You can easily procure our services—no RFPs, no contracts, no prolonged procurement process.

A CIT account number is all you need. You already have one if you currently use a CIT fee-for-service program. You pay for our services monthly, as costs accrue.

How to Get Started

Just call Sandy Desautels at (301) 402-6553, or send an e-mail explaining your needs to Sandy_Desautels@nih.gov. She will meet with you to clearly define the requirements and determine the best approach. A staff member best suited to your requirements will be assigned as your primary

contact. This person may work independently or as part of a team, depending on the complexity of the project.

Our team will develop a prototype that will be refined and enhanced with your help. The prototype will become the production system once you give final approval. We can help you with hosting arrangements or work with your current support staff to ensure that the new site goes on-line quickly with minimum disruption to visitors.

Our Services

The Web Development program was started back in 1997 as an HTML conversion service. Offices with many text documents available through Gopher needed to convert these documents into Web format to put up on Web sites. Since then, our services have grown considerably. In addition to Web site design and maintenance, we also offer on-line registration, surveys, custom Web application development, and FileMaker Pro database development and hosting.

Among the Web sites we have developed:

- NIH home page
- NHLBI home page
- NIH Employee Info
- NIH Enterprise Directory (NED) Report Request
- NIH Intramural Database (NIDB)
- NIH Portal
- NINR home page
- Fogarty International Center

Links to these sites, and others, are available from our Web site—use the “portfolio” button. For more details of the services available, please visit our Web site [<http://webdev.cit.nih.gov>].



South System Transition to Titan—Keep Current with a Web Newsletter

The South system transition to Titan is coming soon. Subscribe now to the “Titan/South System News” [<http://datacenter.cit.nih.gov/titannews/>], CIT’s on-line newsletter for OS/390 information.

Reading “Titan/South system News” will ensure that you get up-to-date information on our progress and on what you can do now to prepare for the move. *And* you won’t miss important information you can use to make the transition smoother.



CIT Training Program Has a Record-Breaking Spring Term

The CIT Training Program spring term broke records – 195 sessions of 127 separate topics, classrooms in continual use, and more training opportunities offered than in any previous term.

Scientific Seminars

Scientific seminars have almost doubled – 16 of 34 topics are new – which allows CIT to better serve the NIH scientific community. Our instructors stay on the cutting edge of advances in computing tools that promote scientific research, and they are sharing their knowledge and experience with NIH colleagues.

Successful scientific classes included the hands-on “Introduction to Perl for Biologists,” which had excellent reviews and has generated interest sufficient for many future sessions. Others with large attendance included “High-Volume, High-Speed Sequence Analysis on the Biowulf Supercluster,” “Homology Modeling with GeneMine,” multiple sessions of “Statistical Analysis of Microarray Data,” and a very popular “Microarray Data Analysis Using S-Plus: From Quality Control to Discovery.”

Even though a number of courses became available after the start of the term, the training program was able to get them on the Web immediately. This made it possible for several existing lecture series to add hands-on classes. Five different topics in AFNI (Analysis of Functional NeuroImaging) were addressed, as well as another series covering Blast, Structural Analysis, and MapViewer. Other mid-term arrivals included a series of Partek courses that allowed both new and experienced users to gain knowledge and to ask questions of experts.

Summer Term

The summer term runs from June through mid-August. The new “Blackberry Tips and Tricks,” which generated a great deal of interest in the spring, will have more sessions in the summer. The many classes in personal computers, networking, Unix, Web development, statistics, database, the OS/390 system, and the NIH Data Warehouse continue to be strong and should have additional sessions in the summer. We anticipate many more presentations and continued offerings on popular topics.

The summer session will include more new topics, including:

- “Hands-on XML Schemas,” an advanced follow-up session to the well-attended six-day “XML Basics” course.
- Apple Computer has proposed a number of topics centered around using Macs in science – including Unix, informatics research, and making PowerPoint presentations into movies on DVD.
- SPSS has agreed to bring a one-day introductory lecture on the use of their statistical software.

The Fall Term and Fernwood

Plans for opening two new classrooms in the off-campus Fernwood facility are going well. We will keep two of the three current building 12A classrooms – B51 and B47 rooms. To ensure continued high level of support to our instructors, we will have an on-campus office that will enable the training staff (based primarily at Fernwood) to spend significant time in both locations.

Beginning with the fall term, scientific classes will be held on the NIH campus. The location of other classes will depend on the location of the majority of people interested in the topic. Classes with multiple sessions may be offered at both sites to help people who have difficulty getting onto campus for classes.

Fernwood will have ample free parking and an NIH shuttle stop.

More Information and Registration

All classes are offered free of charge to users of NIH computer services to help them make efficient and effective use of computing, networking, and information systems in their work.

If you are interested in a class that has already taken place, consider joining the waitlist. Students on the waitlist are given the first opportunity to enroll once new sections become available.

The training program always welcomes new volunteer instructors. If you are able to offer a course, please contact us.

Registration and course information are available from the training Web page [<http://training.cit.nih.gov>], or from a training consultant at (301) 594-6248.



Training Calendar—Spring 2002 (Update)

May

612	Finding NIH Employee Information on the Web	Moved to May 29
972D	mAdb Basic Informatics	May 30

June

833B	Blackberry Tips and Tricks	June 6
714	IT Investment Review (Capital Planning and Investment Control)	Moved to June 13

This list does not currently include independent study courses. See the CIT training Web page [<http://training.cit.nih.gov>].



Dates to Remember

Now ...

- ColdFusion hosting is available at the NIH Computer Center. [See issue 222]
- Web-based CIT "Service Request" system is available for all platforms. ^{E S T}

Software Available ...

- Software client for NBARS can be downloaded for Windows.
- Crystal Decisions software is available to NIH and HHS at deep discounts.
- SAS upgrade to version 8.2 available. ^{S T}
- Oracle software, upgrades and maintenance licenses are now available from HHS. ^E

2002 ...

Summer	EHRP will be the first system to be production on the new NBRSS. [See issues 216, 221]
October	General Ledger portion of the NBRSS financial module is scheduled to be production.
November 13	Disaster recovery test. ^{E S T}

E EOS System
S OS/390 South System
T OS/390 Titan System

Articles in other issues of *Interface* appear in brackets [].



Publications

The following documents have become available since the last issue of *Interface*. Automatic renewal of publications has been replaced by the “View / Print on Demand” (VPOD) system available on line [<http://publications.cit.nih.gov>]. To be notified of new or updated documentation that has been added to the VPOD system, join the Listserv list, “CIT-doc-renew” [<http://list.nih.gov/archives/cit-doc-renew.html>].

Mainframe Systems (IBM OS/390 Servers)

Single Copy Publications

New

OS/390 Batch and Utilities (North Pre-Titan and South System)



NIH COMPUTER CENTER Hardware and Software

ENTERPRISE SYSTEMS

OS/390 (MVS) SYSTEMS

OS/390 Systems Hardware

The OS/390 facility is an integrated multiprocessor complex, interconnected by shared disk storage. There are two IBM 9672 model RB6 systems, each with 2 processors. Each system has two gigabytes (GB) of memory and a complement of several hundred peripheral devices.

The peripheral devices include:

- 9392 disk drives (RAMAC)
- 3480 cartridge tape drives (18 track, 38,000 BPI)
- 3490E cartridge tape drives (36 track, 38,000 BPI)
- 3422 tape drives (6250/1600 BPI)
- STK 9310 (Powderhorn) ATL
- STK 9490 (Timberline) cartridge tape drives (36 track, 38000 BPI)
- STK virtual tape storage subsystem (VTSS)
- STK 9840 ultra high performance magnetic tape drives
- 3990 DASD Cache Storage Controllers
- 9390 DASD Cache Storage Controllers
- 3900 laser printing subsystems
- 3160 cut-sheet laser printers
- 4245 impact printers
- OSA-2 (Open System Adapter) Fast Ethernet
- 3745 communications controllers
- 5665 NCR Comten communications controllers

Peripherals are available to all processors, providing nonidle redundancy and minimal disruption of service in the event of any subsystem or component failure.

IBM 9672-RB6 Serial Numbers

CP0=044625, CP1=144625
CP0=044626, CP1=144626

OS/390 Systems Software

S = South System, T =Titan

OS/390 Operating System

The IBM OS/390 Operating System using job control language as the user interface and the Job Entry Subsystem Version 2 (JES2), (S, T).

SILK Web Facilities

Customized, public, and secure servers available for general use. SILK provides online services that include: directory and account information, management functions, RACF processing, data set listing, batch job submission, and e-mail through a Web interface (S, T).

Interactive Systems

CICS (T), ISPF (S, T), TSO (S, T), NIH Extended WYLBUR (S), and ACS WYLBUR (T)

Databases

ADABAS (T), Model 204 (T), DB2 (S), and IMS (S)

Language Processors

COBOL/370 (S, T), VS FORTRAN (S, T), PL/I for OS and VM (S, T), REXX (S, T), High Level Assembler (S, T)

Graphics Systems

SAS/GRAPH (T)

Scientific Statistical Systems

SAS (S, T), SPSS (S, T)

Other

File management systems - VISION:Builder (S, T), VISION:Report (S, T), IRS (T); BookManager online documentation system (T); CONNECT:Direct for online financial transactions (S, T); VPS printing service (S, T)

Connectivity Products for Access to the OS/390 Systems

Terminal emulation and full connectivity client software for telnet and dialup connections. Supported software packages include MS-Kermit (S), QWS3270 PLUS (S, T), NetTerm (TNVT) (S), and WS_FTP Pro (S, T).

NIH COMPUTER CENTER Hardware and Software

EOS (UNIX)

Unix System Hardware

Compaq AlphaServer GS60
4 CPUs (500 MHz EV6)
4 GB RAM

Compaq/Digital AlphaServer GS140
10 CPUs (440 MHz)
8 GB RAM

Numerous Compaq/Digital AlphaServers: 1000s,
1200s, and a 4100

Sun Enterprise 250 and 420-R servers

Unix System Software

Tru64 UNIX Operating System

Sun Solaris Operating System

Installed Software (commercial)

DEC COBOL

DEC C

DEC C++

Apache HTTP server

Net8 (formerly SQL*Net)

Netscape Enterprise Server

Oracle Web Application Server

Oracle Internet Application Server

Database

Oracle

WINDOWS SERVER SERVICES

Windows Server operating systems applications can be hosted on a series of servers that are carefully managed and monitored by CIT on a 7x24 basis. These are Compaq Enterprise class servers and storage arrays. This facility provides a computing environment that has been proven suitable for mission-critical, enterprise-wide applications.

Hardware

Compaq DL360
Dual - Intel Pentium III 800MHz Processors
512MB SDRAM expandable to 4 GB
Storage: 2 Internal Drives - 9.1, 18.2, or 36GB -
large storage arrays available
Size: 1U

Compaq DL380

Dual - Intel Pentium III 933MHz Processors
512MB SDRAM expandable to 4 GB

Storage: 4 - 6 Internal Drives - 9.1, 18.2, or 36GB
- large storage arrays available

Size: 3U

Compaq DL580

Quad - Intel Pentium III 700MHz/2MB Xeon
Processors

1GB SDRAM expandable to 16 GB

Storage: 4 Internal Drives - 9.1, 18.2, or 36GB -
large storage arrays available

Size: 4U

Compaq 8500

An 8 way (8 processor) - Intel Pentium III
700MHz/2MB Xeon Processors

2GB SDRAM expandable to 16 GB

Storage: 4 Internal Drives - 9.1, 18.2, or 36GB -
large storage arrays available

Size: 7U

Windows Application Software

Windows 2000 is our standard operating system. We support the older Windows NT 4.0 environment, as required.

Major components of the Microsoft Back Office Server Suite

Supported applications include: Terminal Server, SQL Server 2000 and 7.0, Exchange and IIS in our enterprise wide environment. We provide these services in both a shared and dedicated server service.

ColdFusion in both a shared and dedicated Web environment

OTHER SERVICES

Site license agreements for distributing SAS for PC clients.

Central Email Service (CES) provides e-mail services for the NIH community.

NBARS, an OS/390-based service using TSM software, provides backup and recovery for distributed data.

The Disaster Recovery Program provides disaster recovery facilities and services for "critical" applications that run on the OS/390 systems and the EOS system.

NIH COMPUTER CENTER Hardware and Software

HELIX SYSTEMS

<http://helix.nih.gov>

The NIH Helix Systems manage high-performance computing systems for the NIH intramural scientific community. The staff provides training, documentation and consulting for the resources on these systems. The front-end SGI Origin 2000 system (with the network name helix.nih.gov) is used for many scientific applications as well as general purpose tasks, such as reading mail, transferring files and web browsing.

Additional systems offer special computational capabilities that enable compute-intensive scientific applications to run faster or more efficiently. An SGI Origin 2400 (nimbus.nih.gov) augments helix by running specific scientific applications or user programs that require long execution times. The NIH Biowulf Cluster (biowulf.nih.gov) is a Beowulf parallel processing system that currently has about 880 processors. Biowulf was built by members of the Helix Systems staff and runs the Redhat Linux operating system. A pair of SGI Origin 2000s with 48 processors between them (galaxy/quasar) are designed for the development and execution of high performance parallel applications. The SGI systems run the IRIX operating system, and are jointly funded by the Division of Computer System Services (DCSS) and the Division of Computational Bioscience (DCB).

Helix Systems Software

<http://helix.nih.gov/apps>

<http://biowulf.nih.gov/apps.html>

In addition to the standard Unix tools for software development, text formatting, and network communications, software packages include:

Scientific Applications

Bioinformatics: GCG, Fasta, Blast, ClustalW, BoxShade, Pfsearch, HMMer, BLAT, MUMmer
Structural Biology: X-Plor, Quest, Gaussian, Charmm, GAMESS, NAMD
Molecular Modeling: AMBER, Charmm, DOCK, Fdiscover, LOOK, Insight, NAOMI, Sybyl. Available on helix through MMIGNET
Mathematical/Graphical Analysis: Mathematica, MATLAB, S-PLUS, IMSL, xmgr, Xplot, GAUSS, Physica
Image Analysis: Analyze, AnalyzeAVW, AVS, IDL, xv, imgworks, convert, GIMP, GPHIGS, PHIGURE
Molecular Graphics: Grasp, Molscrip, Molauto, PovChem, Povscript, PovRay, Ribbons

Biological Databases

GenBank: nucleic acid sequences
PIR: protein sequences
Genpept: protein translations from Genbank
SwissProt: curated and highly annotated protein sequence database
Human Genome Assembly: chromosome and annotation
PDB: protein structures

Cambridge Structural Database: small organic and organometallic molecules

Programming Language/Tools

C, FORTRAN 77, Fortran 90, Lisp, gcc, C++, and other typical Unix tools like awk and perl
MPI library, batch systems
Static analyzer, debugger, and performance analyzer tools

Subroutine Libraries

IMSL: mathematical and statistical routines
FIGARO: 2- and 3-d interactive graphics routines

Network Services

mail, pine, and Emacs rmail: e-mail readers
ftp: Internet file transfer utility
Kermit: file transfer via modem
X Window System: supports X-windows scientific applications such as S-PLUS, Mathematica, MATLAB, SeqLab
Netscape and lynx: web browsers
Tin, rn, xrn: newsgroup reader
WebTermX: Web browser plug-in that lets Windows PCs run the X Window System
eXodus: X Windows System for Macintosh

Editors

Pico, vi, edt, nedit, xedit, and GNU Emacs: full-screen editors
ed and ex: line editors

Web-based Services

<http://helix.nih.gov/webapps>

Xwindows: Graphics applications run on helix can be displayed on a desktop Mac or PC
Scientific applications: GCG-Lite, Molecules R Us, SeqWeb, and other web interfaces to scientific tools
Literature Searching: Web of Science, a citation-oriented database of scientific literature. Contains the Science Citation Index Expanded and the Social Science Citation Index Expanded
Porpoise: automatic alert service for new scientific literature that searches the weekly updates of the Web of Science
WHALES: automatic alert service for new sequences in the major nucleotide and protein databases
NIH Directory and Email Forwarding Service

Helix Systems Hardware

The SGI Origin 2000 system (helix) consists of 8 processors based on the MIPS R12000 chip. Each CPU has shared access to 2 GB of memory.

The SGI Origin 2400 (nimbus) consists of 8 processors based on the MIPS R12000 chip. Each CPU has shared access to 4 GB of memory and 20 GB of swap space.

NIH COMPUTER CENTER Hardware and Software

The 32-processor Origin (galaxy) utilizes MIPS R10000 processors and has a total of 8 GB of system memory. The 16-processor Origin (quasar) utilizes MIPS R12000 processors and has a total of 4 GB of system memory.

The Biowulf cluster consists of about 440 dual-processor Pentium 450 MHz, 550 MHz and 866 MHz nodes, most with 512 MB of memory and 8 GB of disk. Each node is

connected to a fast Ethernet switch (100 Mb/s). For applications that can take advantage of more memory and higher network speeds, some nodes contain as much as 2 GB of memory and others are connected to a gigabit speed network.

The Helix systems are restricted to NIH use.

ALW SYSTEM

<http://www.alw.nih.gov>

The Advanced Laboratory Workstation (ALW) System is a general-purpose, open, distributed computing system. All Advanced Laboratory Workstations are interconnected by the NIH campus-wide network, which they use to share resources and access services. The AFS file system provides distributed file services.

ALW System Hardware

Client workstations

Sun SPARCstations
Silicon Graphics

File Servers

5 servers with combined storage of over 300 GB

ALW Application Software

Genomic sequence analysis packages

Refer to <http://www.bimas.cit.nih.gov/>

Image processing

Analyze - medical image processing
Khoros - abstract visual language
MEDX - medical imaging processing

Mathematics packages

Mathematica
Matlab

Molecular modeling software

Refer to <http://cmm.info.nih.gov/modeling>

Statistical packages

Prophet
SAS
S-PLUS

Office automation applications

StarOffice - integrated spreadsheet, word processing and graphics
WordPerfect - word processing

Other software

Emacs - text editor
Gnu software and development tools
Internet Explorer - web browser
Netscape - web browser
PTR - problem reporting system for ALW

NETWORKS

NIHnet

a high-speed network backbone that interconnects NIH LANs, the Computer Center central servers—enterprise (OS/390, EOS, and Windows NT/2000 Application Servers) and scientific (Helix and ALW Systems)—and the Internet. The LAN protocols that are supported for NIHnet connectivity include TCP/IP, AppleTalk, and IPX. Users on NIHnet LANs with these protocols are provided with remote login and high-speed access, fast file transfer, and local and worldwide electronic mail connections. Dialup access to NIHnet is available for NIH employees through Parachute.

Internet

an international collection of networks, supported by major research institutions, that communicate with each other using TCP/IP protocols. The Internet offers file transfer, remote login (telnet) electronic mail, and World Wide Web connections.

NIHnet Mail Gateway

a set of gateways, allowing the exchange of electronic mail among users of all mail systems supported at NIH and between NIH users and other users on the Internet. (Note: not all mail systems support the exchange of attachments).

COMPUTER Services Telephone Directory

Service	Office	Bldg/Rm	Telephone (301)
ENTERPRISE SYSTEMS (OS/390, Unix, Windows Server Services)			
Database Support	Database Systems Branch	12/2200	496-9158
IMS Support	Database Systems Branch	12/2200	496-6244
Help Desk	TASC	12A/1011	594-6248
New Applications	Application Services Branch	12A/4011	496-5524
Operating Schedule – OS/390, EOS (recording)	--	--	402-2211
Security Investigations and Assistance	TASC	12A/1011	594-6248
Fax Number	--	--	496-6905
Security Policy	CIT Security Coordinator	12A/4033	496-1053
Tape Library	Systems Operations Mgmt. Branch	12/1100	496-6021
SCIENTIFIC SYSTEMS (Helix and Advanced Laboratory Workstation)			
Help Desk - ALW**	TASC	12A/1011	594-6248
Help Desk - Helix	TASC	12A/1011	594-6248
Operating Schedule – Helix (recording)	--	--	402-2212
Operator - Helix	--	12/2200	496-6755
CONNECTIVITY SERVICES (E-mail, Networks, File Transfer, Access to Enterprise and Scientific Systems)			
Help Desk	TASC	12A/1011	594-6248
GENERAL SERVICES			
Accounts/Billing, Registration	TASC	12A/1011	594-6248
ADB Support**	TASC	12A/1011	594-6248
Application Programming	Division of Enterprise and Custom Applications	Federal Bldg.	594-6248
Computer Center General Policy	Director, Division of Computer System Services	12A/4039	496-5381
Computer Center Security Policy	CIT Security Coordinator	12A/4033	496-1053
Disaster Recovery Process	Disaster Recovery Coordinator	12A/4033	496-1053
Documentation/Publications	Technical Information Office	12A/1011	594-6248
Output Distribution and Foreign Tape Handling			
NIH Campus	Output Distribution	12A/1000	496-6183
Parklawn Building	Output Distribution	2B70	443-4253
Public Information on CIT	Information Office, CIT	12A/4063	496-6203
Special Tape Handling	Output Distribution	12A/1000	496-6183
Statistical Packages	TASC	12A/1011	594-6248
TDD Line for Hearing Impaired	TASC	12A/1011	496-8294
Telecommunications Problems	TASC	12A/1011	594-6248
Training	TASC	12A/1011	594-6248

*Non-NIH number; requires "9" prefix. **Services available to NIH employees only.
World Wide Web access to CIT through <http://cit.nih.gov>

TASC (Technical Assistance and Support Center) is open 8:00
A.M. - 5:00 P.M.
Telephone assistance is available 7:00 A.M. - 6:00 P.M.

Online Services Directory

Service	Internet Host Name	Dialup Access (301)	Status (301)
OS/390 (MVS) - South System			
WYLBUR (network) 2400-19200 bps (dialup)	WYLBUR.CU.NIH.GOV	402-2221 *800-358-2221	402-2211
TSO (network) 2400-19200 bps (dialup)	TSO.CU.NIH.GOV	402-2223 *800-358-2223	402-2211
TSO, DB2, IMS (Full-Screen 3270) (network)	TN3270.CU.NIH.GOV	N/A	402-2211
RJE Batch 2400-9600 bps (dialup)	N/A	480-0744	402-2211
Network File Transfer	FTP.CU.NIH.GOV	N/A	N/A
OS/390 (MVS) - Titan (Standard System)			
TSO (Full-Screen 3270)	TN3270.TITAN.NIH.GOV	N/A	402-2211
RJE Batch 2400-9600 bps (dialup)	N/A	480-0744	402-2211
Network File Transfer	FTP.TITAN.NIH.GOV	N/A	402-2211
Helix Systems			
SGI Challenge System 2400-33600 bps	HELIX.NIH.GOV	402-2222 *800-358-2022	402-2212
NIH Biowulf Cluster	BIOWULF.NIH.GOV	N/A	402-2212
NIHnet access through Parachute	N/A	402-6830 *800-827-0124	594-6248

NOTES

- To access 402, 435, 443, 451, 480, 496, 594, or 827 numbers from other 402, 435, 443, 451, 480, 496, 594, or 827 numbers, use only the last 5 digits.
 - N/A: Not Applicable
 - All telephone numbers are accessible through FTS.
- * These 800 numbers should be used only by persons who do not have access to FTS2001.

Popular Web Sites for NIN Computer Center Users

Service	Web Address
National Institutes of Health	http://www.nih.gov
Antivirus Web site NIH Business and Research Support System NIH Electronic Directory NIH Data Warehouse Software Distribution Project	http://antivirus.nih.gov http://nbrss.nih.gov http://nedinfo.nih.gov http://datatown.nih.gov http://sdp.cit.nih.gov
Center for Information Technology	http://cit.nih.gov
Computational Bioscience Molecular Modeling	http://cmm.info.nih.gov/modeling
NIH Computer Center Scientific Computing <i>ALW</i> <i>Helix Systems</i> NIH Biowulf Cluster Enterprise Computing <i>OS/390</i> Transition Update "Titan/South System News" <i>Titan</i> RACF SILK Web Web Sponsor <i>South</i> RACF SILK Web Web Sponsor <i>Unix (EOS)</i> <i>Windows Server Services</i> Application Service Request (ASR) ColdFusion Database Technologies <i>Interface</i> NIH Backup and Recovery Service (NBARS) Oracle Hosting Service	http://datacenter.cit.nih.gov http://www.alw.nih.gov http://helix.nih.gov http://biowulf.nih.gov http://datacenter.cit.nih.gov/mvs http://silk.nih.gov/silk/titan http://datacenter.cit.nih.gov/titannews http://titan.nih.gov/racf http://titan.nih.gov/ http://websponsor.cit.nih.gov http://silk.nih.gov/racf http://silk.nih.gov http://silk.nih.gov/sponsor/homepage http://datacenter.cit.nih.gov/eos http://wintelhosting.cit.nih.gov http://silk.nih.gov/asr/request http://cfhosting.cit.nih.gov http://silk.nih.gov/dbtech http://datacenter.cit.nih.gov/interface http://silk.nih.gov/silk/nbars http://silk.nih.gov/silk/citoracle
Customer Services	
Accounts Customer Support Publications Service Request TASC Help Desk Training	http://support.cit.nih.gov/accounts http://support.cit.nih.gov http://publications.cit.nih.gov http://support.cit.nih.gov http://support.cit.nih.gov http://training.cit.nih.gov
Network Systems	
Listserv NIHnet Parachute	http://list.nih.gov http://www.net.nih.gov http://parachute.nih.gov

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DCS	Division of Customer Support
DCSS	Division of Computer System Services
DECA	Division of Enterprise and Custom Applications
OD	CIT, Office of the Director
OD/OPEC	CIT, Office of Planning, Evaluation, and Communication