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Questions, comments and corrections for this site: lynch@unt.edu
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Campus Computing News

## UNT to Participate in Texas Statewide Optical Fiber Network

By **Dr. Maurice Leatherbury**, Executive Director of Information Technology and Academic Computing

UNT has elected to join 22 other Texas institutions of higher education in establishing a statewide optical fiber network that will link the major population areas of the state within the next several years. Funded through an anticipated grant of $7,500,000 from the Governor's Enterprise Fund and member fees for participation, the new network will allow higher education in Texas to connect to each other at unprecedented speeds and will enhance the State's competitiveness for research funding.

The current membership in the new organization, yet to be named, is as follows:

Institution	Location
Baylor U	Waco
Baylor College of Medicine	Houston
Northeast Texas Consortium (NETnet)	Tyler
Prairie View A&M U	Prairie View
Rice U	Houston
Southern Methodist U	Dallas
Texas Assn of Community Colleges	Austin
Texas A&M U	College Station
Texas A&M System	College Station
Texas Christian U	Fort Worth
Texas State U System	San Marcos
Texas Tech U System	Lubbock
U of Houston System	Houston
U of North Texas System	Denton
UT Arlington	Arlington
UT Austin	Austin
UT Dallas	Dallas
UT El Paso	El Paso
UT HSC, San Antonio	San Antonio
UT Med Branch	Galveston
UT San Antonio	San Antonio
UT Southwestern Med Ctr	Dallas

U of Texas System	Austin

A map of the likely routes that the fiber links will take is shown below:

Texas Optical Fiber Network
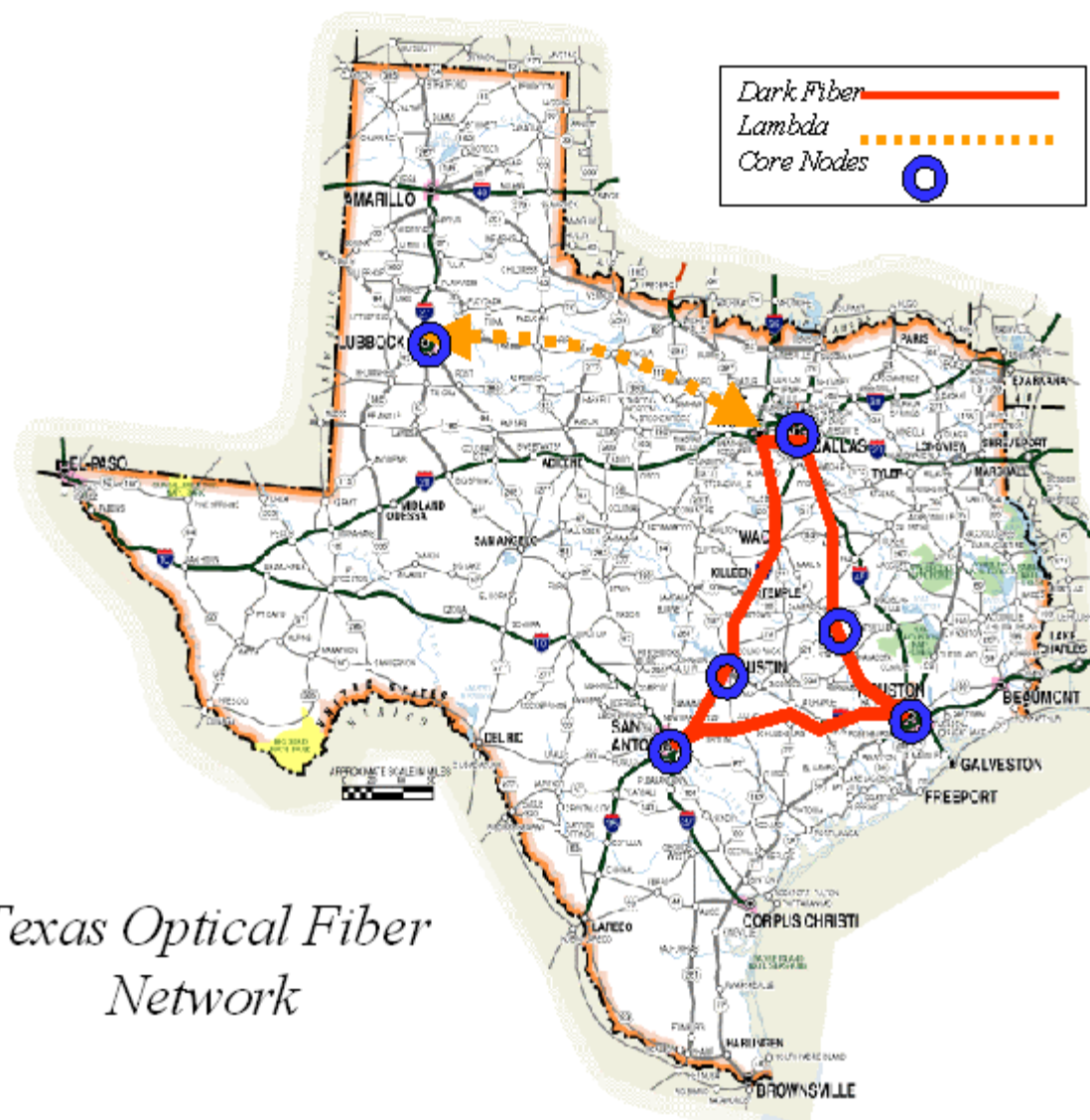
UNT and the other member organizations have pledged $20,000 per year for the next several years to support the establishment and operation of a management structure for the network, which at this time is projected to be in Houston and will be based on the nonprofit organization that was established to provide Internet2 connectivity in Houston, the "Texas Gigapop." A meeting will be held on December 2, 2003 to start making decisions about the future structure and operation of the network.

In order to take full advantage of the new optical fiber network, at speeds approaching the capability of the statewide network, UNT will have to significantly upgrade its connections to the likely point of presence in Dallas. We currently have two 45Mbps lines to the campus of the University of Texas at Dallas through which we connect to Internet2 as well as Internet1. We will be expanding our link to a 155Mbps line by the beginning of the next academic year. However, the optical fiber network has the capacity to carry many 1Gbps signals (6-1/2 times the speed of our anticipated 155Mbps line, in other words.) It will probably be several years before we can acquire the funding needed to provide the data communications capacity that

will be needed to support high-speed research networking to UNT's research community, in short.

Benchmarks Online

Holiday Hours

By Claudia Lynch, Benchmarks Online Editor

Following are the hours for Computing Center-managed facilities for the Thanksgiving holiday. All staff offices will be closed Thursday, November 27 and Friday, November 28. The Helpdesk, ACS General Access Lab and Mainframe Print Services will maintain services during much of the four day weekend, however.

- **Print Services** will **close** Midnight, Wednesday Nov. 26 and remain closed until 6 a.m. Friday, November 28 and resume regular hours at that time.

- The **Helpdesk** is planning on being **open** during this time.

- The **ACS General Access Lab** (ISB 110) will be open Wednesday November 26 - 8:00 a.m. - 4:45 p.m. **Closed** Thursday November 27 - Saturday November 29, resume normal hours Sunday November 30.

Hours for Other Campus Facilities

The University is officially closed for Thanksgiving break Thursday, November 27 and Friday, November 28.

General Access Labs

- WILLIS:

  Wednesday 11/26 close at 7:50 p.m.
  Thursday 11/27 **Closed**
  Friday 11/28 Open at 8:00 a.m. - 5 p.m.
  Saturday 11/29 Open at 1 p.m. (back to 24 hrs)

- SLIS:

  Wednesday 11/26, close at 6:00 p.m.
  Thursday-Sunday, 11/27-11/30 **Closed**

- MUSIC:

  - Wednesday 11/26: 7:30 am - 5:00pm
   Thursday - Saturday, 11/27-11/29) **Closed**
   Sunday, 11/30: 1:00 pm - Midnight

- SCS:

Chilton Labs (SCS/SMHM) will **close** at 9:00 p.m. Wednesday, November 26, and re-open at 8:00 a .m. Monday, December 1.

- [SOVA](#):

  Hours unavailable at publication time.

- [COE](#):

  Thursday-Sunday, 11/27-30 **Closed**
  Monday 12/1, resume normal hours.

- [COBA](#):

  Thursday-Friday, 11/27-28 **Closed**
  Saturday 11/29 resume normal hours.

- [CAS](#):

  Wednesday 11/26:
  GAB 330 8 a.m. - 8 p.m.
  GAB 550, TH 220, WH 120 8 a.m. - 5 p.m.

  Thursday-Friday, 11/27-28 **All labs closed**

  Saturday 11/29:
  GAB 330 Noon - 8 p.m., resume normal hours
  GAB 550, TH 220, WH 120 **Closed,** resume normal hours Monday, December 1.

Benchmarks Online

Computing Outage Notification Mailing List Now Available

By Dr. Philip Baczewski, Associate Director of Academic Computing

CITC staff have created an automated mailing list which will help keep on-campus computing support staff apprized of any expected or unexpected information technology outages. For quite some time, we have maintained a web-based view of Campus-wide System Outages. The newly created mailing list will provide quick notification of similar cases via an E-mail message.

The outage notification service is based on information reported via the Remedy helpdesk system used by many IT support areas on campus. Any Remedy Help Desk Cases or Change Requests with a Critical Urgency of "Campuswide System Down," "20+ People out of service," or "Critical Security issue," can, upon request, generate a notice that will be sent to the campus-wide system outages mailing list.

Anyone subscribed to the list will receive a brief description of any outages as well as a URL linking to the actual Remedy case which documents the outage. Only those in the Remedy support group (network managers, etc.) will be able to see the full details of the case. When an incident is resolved or downgraded, a message to that effect is sent to the outages mailing list.

A tool for those who manage IT environments

This mailing list service is intended as a tool for those who manage IT environments on the UNT Denton Campus. While subscription is open to any unt.edu address, it is not intended as an information service for the general UNT community. The information provided will be most meaningful to those who are familiar with UNT computing and networking services.

You can SUBSCRIBE to the Campus-wide System Outage mailing list by sending mail to listserv@unt.edu with the following command as the body of the message (no subject is necessary),

    SUBSCRIBE unt-cso your_first_name your_last_name

Note that this mailing list is only open for automatic subscription by addresses in the unt.edu domain. If you wish to add an external address, such as a commercial text pager address, send an E-mail message to unt-cso-request@unt.edu and provide your name and pager E-mail address.

More detailed information about the unt-cso list can be found via a PDF [document](#) found on the Remedy [Website](#) . Any questions about this service can be directed to [Dr. Philip Baczewski](#), Associate Director of Academic Computing.

Benchmarks Online

Computer-Based Training at UNT: Aargh, I'm so confused!

By Dr. Elizabeth Hinkle-Turner, Student Computing Services Manager

Computer-based training at UNT has come to the end of an era. Actually, it has just come to the end of three-year initial contract with SmartForce/SkillSoft. And what a long era it was! The technology used to implement SmartForce Campus has come to the end of its usefulness. As anyone who has tried to login during the past couple of weeks has noticed, the server has been taken offline because the Campus application was not compatible with the necessary patches needed for a robust and secure Windows2000 server. *Please note that all of the courses listed at the old SmartForce website are still available on CD-ROM for your use by contacting Claudia Lynch in Academic Computing Services.*

With the beginning of a new (one-year) contract for computer-based training services with SkillSoft and the addition of a new company for online learning, the CBT administrator hopes to offer a much more flexible and reliable online service than in the past. In fact, she hopes to eliminate those confusing CD-ROMs forever with a faster, more current system and several cross-platform issues are nearing resolution. All of the changes in CBT at UNT will be documented and linked via a new website: www.unt.edu/CBT/ (not available until January 2004) but the following is an explanation of what will be online for your use beginning in the spring 2004 semester.

Come spring . . .

The SkillSoft site will be completely different in scope and appearance. Dubbed "Skillport" by the company, each user will be able to design their own curriculum from the courses available and track and report their progress much more easily. Additionally, users will be able to search for specific topics inside

available courses. A search for "java" will not only pull up all of the Java courses we have purchased but will also reference other accessible courses that may have sections dealing with Java. Some of the old SmartForce courses have been dropped because they are out-of-date content-wise. The Skillport courses will still be available on CD-ROM but users are strongly encouraged to try out the new online system before making CD-ROM requests. The courses that will be available via Skillport include:

Adobe Products

- also on the **Adobe Products** CD-ROM:

- *Getting Started with Adobe Acrobat*
- *Up and Running with Adobe Acrobat 5.0*

- *Getting Started with Freehand 10*
- *Up and Running with Freehand 10*
- *Moving On with Freehand 10*

- *Getting Started with GoLive 5*
- *Up and Running with GoLive 5*
- *Moving On with GoLive 5*

- *Getting Started with Illustrator 9.0*
- *Up and Running with Illustrator 9.0*

- *Getting Started with Paint Shop Pro 7*

- *Getting Started with Photoshop 6.0*
- *Up and Running with Photoshop 6.0*

- *Optimizing File Sizes with Imageready 3*

Adobe Acrobat 5.0

- also on the **Adobe Acrobat** CD-ROM:

- *Getting Started with Adobe Acrobat*
- *Up and Running with Adobe Acrobat 5.0*

Javascript and Java

- also on **Javascript and Java** CD-ROM:

- *JAVASCRIPT CLIENT SIDE SCRIPTING*
- *JAVA SCRIPT: LANGUAGE BASICS*
- *AN OVERVIEW OF JAVA*
- *ANATOMY OF JAVA CLASSES*
- *FEATURES OF JAVA*
- *INTRODUCTION TO THE JAVA LANGUAGE*
- *OBJECT-ORIENTED PRINCIPLES AND JAVA*
- *JAVA 2: CORE UTILITIES*
- *JAVA 2: CREATING CLASSES*
- *JAVA 2: INTRODUCTION TO CREATING GUIS*

- *JAVA 2: LANGUAGE BASICS*
- *JAVA 2: LANGUAGE FEATURES*
- *JAVA AND DISTRIBUTED OBJECTS*
- *JAVA ANIMATION AND IMAGES*
- *JAVA BEANS*
- *JAVA DATABASE CONNECTIVITY*
- *JAVA ENTERPRISE CONNECTIVITY: CORBA AND THE JAVA IDL*
- *JAVA ENTERPRISE CONNECTIVITY: ENTERPRISE JAVA BEANS (EJB)*
- *JAVA ENTERPRISE CONNECTIVITY: JAVA DATABASE CONNECTIVITY (JDBC)*
- *JAVA ENTERPRISE CONNECTIVITY REMOTE METHOD INVOCATION (RMI) AND SERIALIZATION*
- *JAVA ENTERPRISE CONNECTIVITY SECURITY FEATURES*
- *JAVA ENTERPRISE CONNECTIVITY: SERVLETS*
- *JAVA ENTERPRISE CONNECTIVITY: SWING AND THE IFC*
- *JAVA FOR CD DEVELOPERS*
- *JAVA SECURITY: NETWORKING AND THE INTERNET*
- *JAVA TIPS AND TECHNIQUES*
- *JAVA USER INTERFACE PROGRAMMING*

Linux

- also on the **Linux** CD-ROM:

- *Linux: Basic System Administration I (listed under the title "Administration Tasks")*
- *Files in Linux (listed under the title "Managing the Filesystem")*
- *Editing and Printing (Linux Administration)*
- *Hardware (Linux Administration)*
- *Installation and Package Management (Linux Administration)*
- *Networking Fundamentals (Linux Administration)*
- *Networking Services (Linux Administration)*
- *Security (Linux Administration)*
- *Shell Scripting (Linux Administration)*
- *Updating the Kernal (Linux Administration)*

Macromedia Products

- also on the **Macromedia Products** CD-ROM:

- *Working with Images* – introductory course to Fireworks MX
- *Adding Interactive Objects* – Fireworks MX
- *Using Fireworks MX with Dreamweaver MX and Flash MX*

- *Basic Animation*– introductory course to Flash MX

- *Increased Application* – Flash MX

- *Objects, Functions, and Components in Flash MX*

- *Using Action Scripts in Flash MX*

- *Dreamweaver 4* – introductory course to Dreamweaver 4

- *Using Basic Dreamweaver MX Tools* – introductory course to Dreamweaver MX
- *Structuring Web Pages* – using tables in Dreamweaver MX

- *Flash 5* – introductory course to Flash 5

- *Getting Started with Coldfusion MX* – introductory course
- *Data Retrieval and Manipulation* - advanced Coldfusion

Oracle 9i

- also on the **Oracle 9i** CD-ROM:

- *Introducing Oracle9i Database*
- *Reducing Downtime in an Oracle9i Database (listed under the title "Availability")*
- *Joins, Expressions and Subqueries in Oracle9i (listed under the title "Development Platform")*
- *The Oracle9i Database SPFILE (listed under the title "Manageability Enhancements")*
- *Oracle9i Database Index Usage and Monitoring (listed under the title "Scalability and Performance")*
- *Oracle9i Database Security (listed under the title "Security Overview")*
- *Backup and Recovery Overview and Configuration (Oracle 9i)*
- *Data Integrity (Oracle 9i)*
- *Networking Overview (Oracle 9i)*
- *Oracle Network Configuration (Oracle 9i)*
- *Privileges and Roles (Oracle 9i)*
- *Recovery Manager Maintenance (Oracle 9i)*
- *Tables and Indexes (Oracle 9i)*
- *Transporting and Loading Data (Oracle 9i)*
- *User-Managed and RMAN Backup and Recovery (Oracle 9i)*
- *Users and Profiles (Oracle 9i)*
- *Data Storage (Oracle 9i)*
- *Globalization and Auditing (Oracle 9i)*

Solaris 9

- also on the **Solaris 9** CD-ROM :

- *Advanced Installation*
- *Networking with Solaris*
- *Solaris Naming Services*
- *Solaris File Systems and Storage*
- *Supervising Solaris Systems*

UNIX

- also on the **UNIX** CD-ROM:

- *UNIX: EXPLORING THE FILESYSTEM*
- *UNIX: OVERVIEW*
- *UNIX: PROCESS AND DATA UTILITIES*

- *UNIX: SHELL PROGRAMMING*
- *UNIX: THE USER ENVIRONMENT*
- *UNIX: USING EDITORS*
- *UNIX: USING THE SHELL*
- *UNIX: WORKING WITH FILES*

Web Design and Tools

- also on the **Web Power!** CD-ROM:

- *Design Concepts* – covers web page design basics
- *HTML Fundamentals* – an overview of HTML
- *Advanced HTML Design Elements*
- *Advanced Technology Concepts* – covers HTML, Javascript, Dynamic HTML, XML, and Java applets

The platform disadvantage will, unfortunately, still remain with Skillport: users will need to use Internet Explorer on a Windows machine to access all course contents.

Knowledgenet

Because of a desire to provide better service and flexibility and to include our many Linux and Macintosh users, we have also contracted with a new company, [Knowledgenet](#) and are experimenting with their products. Initially Knowledgenet will provide all training on Windows 2000 and Windows XP (eventually Windows 2003) products as well as all Microsoft Office products. Knowledgenet runs on a Linux server (running Apache Tomcat) and is designed to be used on multiple browser products on Windows, Macintosh, and Linux computers.

This much more flexible solution is currently being set up by the CBT administrator and she will let you know more about its interface in the future. If the cross-platform promise of Knowledgenet is, indeed, true - then expect more courses to be offered via the Knowledgenet solution and eliminated from the SkillSoft solution. The goal is to provide CBT to as many users as possible regardless of their operating system or browser type and Knowledgenet seems designed to fit the bill. This experimental year will determine its future on our campus. A more thorough Microsoft training table of contents from Knowledgenet will be available in a few weeks.

Stay tuned!

Stay tuned to *Benchmarks Online* for further developments in UNT CBT as final contracts get approved and new servers get setup and put online. As always, questions and feedback should be sent to [Elizabeth Hinkle-Turner](#), UNT CBT Administrator. Make it your number one New Year's resolution (all right, number two behind the inevitable 'lose weight' one!) to check out these new CBT offerings in January 2004 and let us know what you think!

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Student Computing Services Survey to be Launched Online

By Dr. Elizabeth Hinkle-Turner, Student Computing Services Manager

The Student Computing Planning Group of the UNT Information Resources Council has launched a Student Computing Services Survey and encourages all students utilizing UNT computing resources and services to participate. Developed over the past year with the aid and input of the ResNet staff, the Center for Distributed Learning team, the General Access Lab Managers Committee, the Distributed Computing and Management Team, and the Library as well as other campus areas, this survey is designed to gauge the level of student use and satisfaction with the variety of student computing resources and services on campus.

Student participation crucial

Significant participation by the student body in this survey is crucial to its success. All UNT students pay technology fees and the Student Computing Planning Group (consisting of staff and faculty members from computing services and representatives from the Student Government Association and the Graduate Student Council) wishes to ensure that these monies are distributed where they are needed and desired the most by the student body.

Consisting of questions about ResNet, WebCT, the General Access Labs, the Computing and Information Technology Center Helpdesk, and many more digital services available at UNT, the survey will take from 5 to 8 minutes to complete. The survey is anonymous and is accessed online, beginning Thursday, November 20 through Tuesday, December 23, 2003, at https://web2.unt.edu/compsurvey/. After going to this URL, students are asked to login with their EUID and password. After their status as a currently-enrolled student is confirmed via this login, the survey will be launched.

Help us plan for *your* future

During the past couple of years, the University of North Texas has undertaken a large number of projects which now puts it at the forefront of computing facilities among Texas institutions of higher education. These include an extensive catalog of online classes available via WebCT, the installation of high-speed internet access in the dorms, and the near-completion of a wireless network on the main campus. The people who have worked hard to complete these many projects would like student input about their use in order to help plan for the future. Participation in the survey enables students to help

determine where their technology fees will be best put to use in this planning.

If anyone has further questions about the survey, contact [Dr. Elizabeth Hinkle-Turner](), Student Computing Services Manager and chair of the Student Computing Planning Group.

Again, the survey will be available online from Thursday, November 20 - Tuesday, December 23, 2003. All faculty and staff are urged to strongly encourage the students they teach and work with to participate in this survey. The results of this survey will be made public during the spring 2004 semester.

Benchmarks online

EDUCAUSE Reloaded*

By Claudia Lynch, *Benchmarks Online* Editor

The EDUCAUSE 2003 Annual Conference is over. It appears that it was quite successful and had many thought-provoking, timely presentations. Dr. Maurice Leatherbury, Executive Director of Information Technology and Academic Computing, attended this year. The General Session Panel was "Peer-to-Peer File Sharing: Looking for Win-Win Solutions," and the Moderator was Mara Liasson, National Political Correspondent, National Public Radio. Panelists were Charles Phelps, Provost, University of Rochester; Cary Sherman, President and General Counsel, Recording Industry Association of America; Graham B. Spanier, President, The Pennsylvania State University; Jack Valenti, President and CEO, Motion Picture Association of America. You can view/listen to this session by clicking here and then clicking on the Real Media button at the bottom of the page.

This just in from The EDUCAUSE Listserv:

Participate As a Presenter

Play an active part in the leading higher education administrative technology conference—submit a presentation proposal for CUMREC. The 2004 event, "Spicing Up Technology," will be held May 16–19 in Austin, Texas (note correction in dates).

Submit your proposal online

The deadline for submissions is December 5, 2003. Submit your proposal online today.

How You Can Benefit from Presenting

Just as you may have benefited from your colleagues' knowledge at an EDUCAUSE event, you have the potential to enrich others by giving a presentation at the conference. Presenting offers perks for you, too:

- Help create an innovative and informative program
- Gain recognition
- Spotlight your institution's achievements
- Make valuable contacts

- Hone your public speaking skills
- Build confidence and self-esteem
- Facilitate progress in the academic community

Contribute Your Expertise to One of These Program Tracks

- Applications Development and Case Studies
- Access to Information—Policy and Solutions
- Building Effective Partnerships
- Directions for Higher Education and Information Technology
- Leadership and Management
- Technical Infrastructure and Security
- Web Services
- Corporate Presentations
- View track descriptions

Special Grant and Award for Eligible CUMREC Presenters

If your conference proposal is accepted and you are a first-time presenter at CUMREC, you will automatically be considered for the New Horizon Grant, an initiative of the CUMREC Board of Directors to improve the diversity and quality of the CUMREC program. The grant consists of a complimentary registration to the current conference plus a stipend of $600. No special application is required.

In addition, each year CUMREC presents the Best Presentation Award, based on evaluations submitted by conference attendees. It includes a complimentary registration and cash award. The award is based on evaluations submitted by conference attendees.

Related Opportunity

If your proposal addresses an effective technology-related practice or solution implemented on your campus, submit your presentation content to the Effective Practices and Solutions database.
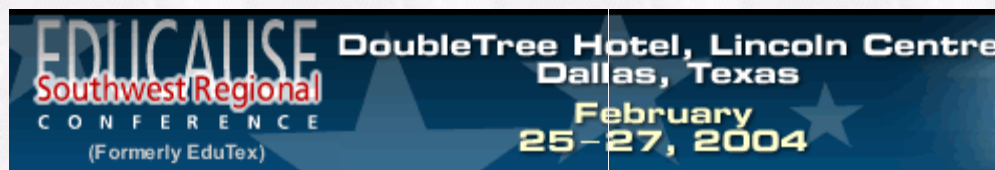
It is still too late for you to submit a presentation proposal, however it is not too late to start making plans to attend the next EDUCAUSE Southwest Regional Conference. According to the conference Website, a focal point of the conference will be practical "how to" sessions that will emphasize ways to save time, effort, and money while maintaining important services and without burning out talented staff.

Sessions will follow four key tracks:

- Leadership and Management Skills

- Teaching, Learning, and Support

- Technology and Solutions

- Corporate Presentations

Prior to the sessions, pre-conference seminars will be held on the morning of February 25.

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* Are you beginning to [notice](#) a theme/trend here? -- ED.

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Benchmarks Online

Network Connection

By **Dr. Philip Baczewski**, **Associate Director of Academic Computing**

SPAM, SPAM, and more SPAM*

SPAM was in the news again in October. On October 23, the U.S. Senate passed the "Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003" or, as it is also known, the "CAN-SPAM Act of 2003 ." A similar measure was expected to pass in the U.S. House of Representatives, but so far that process has been bogged down with two competing versions.

I'm fairly sure that, even if passed by the full Congress, the CAN-SPAM act would do more than ensure that some people CAN still SPAM your E-mail account. But, at least the Senate may have accomplished finding a definitive use of SPAM as an acronym (it's not, really). The term "unSolicited Pornography And Marketing" is fairly accurate in describing many of the annoying messages I receive on a daily basis, although the words "Pharmacy offers" would be as appropriate as "Pornography."

In general the CAN-SPAM act prohibits unauthorized use or falsified use of E-mail routers or services for the transmission of multiple commercial electronic mail messages. Enforcement is by the Federal Trade Commission (FTC). Criminal penalties for violation range 3 or 5 years in prison, depending upon the nature of the offense. In addition, States may bring civil action against violators with statutory damages up to $1,000,000. The bill also mandates the creation of a "Do-Not-E-mail" list by the FTC.

Will it work?

All of this sounds very proactive and the Senate should be commended for passing it unanimously (97-0) except for the fact that it probably won't work. An overwhelming number of SPAM messages I receive are generated and/or transmitted from outside the U.S. In other words, a U.S. law will have no effect. In most cases, it is also extremely difficult and time intensive to track down individuals responsible for sending SPAM messages. This means that only the most egregious cases which result in tens of thousands of mail messages to one particular mail exchanger will get the enforcement support required to actually track someone down.

The other scary part of this bill is the "Do-Not-E-mail" list. The way that the current "Do-Not-Call" list works is that if you register, your registered telephone number along with millions of other working numbers is provided to the telemarketing companies with the instructions not to call any of those numbers. This seems akin to giving a basket of eggs to a hungry fox with instructions not to eat them. Once a copy of a "Do-Not-E-mail" list found its way off the U.S. shore, you can guaranty that SPAMmers everywhere will be salivating over that basket of working E-mail addresses.

The most effective technical solution to SPAM

The most effective technical solution to SPAM is to deny delivery of E-mail messages from users or networks which cannot be verified. If a numeric IP address can be linked to a network name then it is probable that there's a person on the other end who can be contacted about a problem such as SPAM. In the past, the UNT CITC has attempted to put such a restriction in place but received vehement complaints when E-mail could not be received from certain external commercial networks. Yet, everyone is ready and willing to complain about SPAM and ask why the IT department won't do anything about it.

On the other hand . . .

If the will to change is not present, then change will not be accomplished. One need only look at 20th-century U.S. History (prohibition) or a cluster of smokers puffing outside in freezing weather to understand that concept. Until the International Internet community has the will to control SPAM, SPAM will continue to exist. On the other hand, the Internet for some in the world is the first forum where they've been able to freely express themselves without the fear of retribution. Hmmm - delete button versus loss of freedom? I think I'll just keep hitting that delete button thank you.

Benchmarks Online

Link of the Month

Each month we highlight an Internet, USENET Special Interest Group (SIG), or similar mailing list(s) or Website(s).

UNT Events

Keep up with everything that is going on at UNT (and beyond) via the UNT Events Calendar. You have a wide choice of viewing options including:

- All UNT Events
- Academic Dates
- Conferences
- Exhibits
- Governing Bodies
- Information
- Off Campus Metroplex Events
- Staff Related
- TAMS
- Youth Camp
- Sales

- All UNT and Metroplex Events
- Cultural Diversity
- Dance Theatre
- Films
- UNT Yearly Events (Homecoming, University Day, etc.)
- Music
- Programs
- Sports
- University Program Council Events
- Training
- Student Organizations

Point your browser to http://web2.unt.edu/calendar/newindex.cfm and see all the fun and interesting things that are going on, many of them free!

Benchmarks Online

IRC News

Minutes provided by Sue Ellen Richey, Recording Secretary

IRC Regular and Ex-officio Voting Members: *Judith Adkison, College of Education; Donna Asher, Administrative Affairs; Lou Ann Bradley, Communications Planning Group; John Castledine, Graduate Student Council; Cengiz Capan, College of Business and GALC; Bobby Carter, UNT Health Science Center; Christy Crutsinger, Faculty Senate; Jim Curry, Academic Administration; Chuck Fuller, Finance and Business Affairs; Don Grose, Libraries and University Planning Council; Joneel Harris, EIS Planning Group; Elizabeth Hinkle-Turner, Student Computing Planning Group; Bruce Hunter, College of Arts and Sciences; Max Kazemzadeh, School of Visual Arts; Abraham John, Student Development; Jenny Jopling, Instruction Planning Group; Armin Mikler, Research Planning Group; Kenn Moffitt, Standards and Cooperation Program Group; Ramu Muthiah, School of Community Services; Jon Nelson, College of Music; Robert Nimocks, Director, Information Technology, UNTHSC; John Price, UNT System Center; Kathy Swigger, College of Engineering and Computer Sciences: Philip Turner, School of Library and Information Science and University Planning Council (Chair, IRC); VACANT, Student Government Association; VACANT, Staff Council; VACANT, University Planning Council; VACANT, Chancellor, for Planning;* *IRC Ex-officio Nonvoting Members:* *Joe Adamo, Computing and Information Technology Center /Telecommunications; Jim Curry, Microcomputer Maintenance and Classroom Support Services; Richard Harris, Computing and Information Technology Center and University Planning Council; Coy Hoggard, Computing and Information Technology Center /Administrative; Scott Krejci, GALMAC; Maurice Leatherbury, Computing and Information Technology Center /Academic; Doug Mains, UNT Health Science Center; Patrick Pluscht, Center for Distributed Learning; Sue Ellen Richey, Computing and Information Technology Center (Recording Secretary) .*

October 21, 2003

VOTING MEMBERS PRESENT: RICHARD HARRIS (for PHILIP TURNER, Chair), ELIZABETH HINKLE-TURNER, JONEEL HARRIS, LOU ANN BRADLEY (for DON GROSE), KENN MOFFITT, WIL CLARK (for JOHN PRICE), JENNY JOPLING, JON NELSON, CHRISTY CRUTSINGER, CHUCK FULLER, ABRAHAM JOHN, BRUCE HUNTER, CENGIZ CAPAN, KATHY SWIGGER, JUDITH ADKISON **NON-VOTING MEMBERS PRESENT:** COY HOGGARD, SCOTT KREJCI, MAURICE LEATHERBURY, PATRICK PLUSCHT, SUE ELLEN RICHEY (Recording Secretary) **MEMBERS ABSENT:** JOE ADAMO, MAX KAZEMZADEH, JIM CURRY, RAMU MUTHIAH, DONNA ASHER, ROBERT NIMOCKS, DOUG MAINS, ARMIN MIKLER, BOBBY CARTER

Christy Crutsinger moved for approval of the minutes of the September 23, 2003 meeting; Jon Nelson seconded the motion, and the minutes were approved as distributed.

Communications Planning Group

Lou Ann Bradley presented the Network Connections Policy for the Communications Planning Group, and asked for questions. Kathy Swigger asked if visitors to campus would have to get permission before connecting to the wireless network. Richard Harris responded by saying that there is a plan in progress to provide easy temporary access. Maurice responded that all access to the wireless network is through authentication through the LDAP directory. The CITC is working on getting that directory set up so that access can be granted to network managers who could then add people quickly and then remove them

when that person no longer needs the connection point. Abraham John asked if devices that are already attached to the network will be grandfathered into the policy. Lou Ann replied that if something is already connected to the network and is not causing a problem, then it is OK.

The Chair called for a vote, and the Network Connections Policy was unanimously approved by the Council.

Standards and Policy Planning Group

Kenn Moffitt presented the Group E-mail Guidelines for the Standards and Policy Planning Group, and asked for discussion. Kenn distributed revised copies of the document that was presented at the last IRC meeting. There was some discussion of Item 4.c. regarding multiple event announcements, following which it was agreed that the item would be changed to read:

4.c. "More than one announcement and one reminder for a single event – the Marketing and Communications Department maintains a campus calendar on UNT's Web site (http://web2.unt.edu/calendar/newindex.cfm) to which anyone can post and publicize an event."

The Chair called for a vote, and the Group E-mail Guidelines document was unanimously approved with the change.

IR Steering Committee

Richard Harris reported that the IR Steering Committee meeting was held but no IRC issues were on the table. Dr. Turner did report the distance learning statistics at that meeting.

Distributed Computing Support Management Team

Maurice Leatherbury reported for the Distributed Computing Support Management Team that Cathy Gonzalez had attended their last meeting and briefed the committee on support issues for the EIS project. Cathy told the group that there is a process in place to provide end users help in using EIS when it gets rolled out. In addition, Maurice reported that training documents for new computer support staff are being developed and the Patch Management committee is looking at new products as a solution for this issue but find that there are no easy or inexpensive solutions.

Maurice also reported that a representative from Microsoft attended the last meeting to speak with them about new products, and their new patch management system. The representative announced that Microsoft is planning to change to a "once-per-month" update schedule.

Communications Planning Group

Maurice Leatherbury reported for the Communications Planning Group that the Research Park will soon have 12 fiber pairs out to the Research Park.

EIS Planning Group

Joneel Harris reported for the EIS Planning Group that the Admissions module went live at the end of September and that implementation went smoothly. At the same time, the Contributor Relations module went live at the Health Science Center, which also went well.

Contributor Relations is scheduled to go live at the Denton campus on November 18th. Joneel reported that the Financial module implementation is still a struggle; they have been focused on system performance and response time issues. They had been trying to avoid applying software fixes and patches for this module, but now believe that some of those fixes and patches may solve some of the problems so are going ahead with that software

upgrade.

Joneel also reported that they are considering having a PeopleSoft architect come in and take a look at the hardware and software configurations to be sure they haven't overlooked anything in their planning in that regard. In addition, they are developing the go-live schedule for Human Resources, and are beginning to plan the go-live schedule for the Student module which is targeted for April 1st.

Cengiz Capan commented on the importance of system monitoring of the EIS system and asked if that was a priority for the EIS Planning Group. Joneel replied that they are making plans for system monitoring to facilitate quick problem notification and trouble-shooting.

Student Computing Planning Group

Elizabeth Hinkle-Turner reported for the Student Computing Planning Group that they have completed the student survey and have tested it to be sure it doesn't take too long to complete.

Distance Learning Team

Patrick Pluscht reported for the Distance Learning Team that the new eCampus distributed learning program will be launched October 31st, and Patrick distributed a flyer about it. UNTeCampus.com replaces courses.unt.edu and when fully populated will provide complete information regarding all web-based and videoconference course and program listings at UNT.

Other Business

Maurice Leatherbury stated that UNT is involved in getting a state-wide fiber optic network established, with 21 or 22 higher education institutions pledging $20,000 per year to get an organization established to manage this optical network. He stated that it will take $9 million dollars to establish the network and that some of that funding will come from the savings of some institutions who will be able to drop their leased lines. An executive committee will most likely be formed to manage this network and for their $20,000 annual contribution, each member will get one vote on the committee. At this time, the executive committee is trying to get the Governor to release $7.5 million dollars to use as startup funds.

Maurice also reported that Texas will join the National Lambda Rail, which will be a ultra high-speed fiber optic network, will also be owned by universities through pledges from participating states or institutions of $5 million dollars each. For UNT, this will probably mean a $9 - $16 thousand dollar contribution per year.

Richard stated that the President and Chancellor have been briefed on both projects and it has been decided that the UNT System will join, which will secure a place on the governing board of the Texas network for the UNT System. The President authorized the first year's membership from reserve funds and agreed that HSC would not have to contribute this first year and that future years would be based on a percentage of research expenditures.

Richard Harris also reported that he had attended an Information Technology Council for Higher Education meeting. This organization , known as ITCHE, was established by the last state legislature and will have representation from each system in the state plus a representative from the other state institutions that are not systems. The group has met three times and is charged with review of the Department of Information Resources rules and procedures as they apply to higher education. The group will first look at security rules and web publishing policies.

Patrick Pluscht asked how the National Lambda Rail would interconnect with Internet2. Richard explained that the Internet2 group did join in the establishment of the NLR and contributed a considerable amount of money, so Internet2 won't be in competition with the NLR but will be working with it. It is possible that Internet2 may be transferred to the NLR network sometime in the future.

There being no further business, the meeting was adjourned at 3:25 p.m.

IRC Meeting Schedule

The [IRC](#) generally meets on the third Tuesday of each month, from 2-4 p.m., in the Administration Building Board Room. From time to time there are planned exceptions to this schedule. All meetings of the IRC, its program groups, and other committees, are open to all faculty, staff, and students.

Benchmarks Online

Research and Statistical Support
University of North Texas

RSS Matters

Link to the last RSS article here: Out With the Old, In With the New…Format!: UNT's New Faculty Evaluation Reports. -- Ed.

Got EBCDIC? Take This PROC and Call Me in the Morning

By Patrick McLeod, Research and Statistical Support Services Consultant

With the decommissioning of the academic mainframe, the UNT research community moved into a brave new world of computing. This transition means that certain mainframe standby formats for data are now not so easy to use any longer. As I recently found out, these older mainframe formats are also out in the wild in some of the data banks that researchers commonly use, including the ICPSR (Inter-university Consortium for Political and Social Research) at the University of Michigan. Since UNT is an institutional member of ICPSR, any faculty, staff, or student can access all of ICPSR's data holdings from any computer within the UNT subnet (any machine with a 129.120. IP address (UNT's subnet)). But what happens when you find your data and it isn't in ASCII text format or some common statistical platform format?

Are You Down With EBCDIC?

Certain institutions that contribute data to the ICPSR provide this data in formats associated with mainframe data. One of these formats is EBCDIC (Extended Binary Coding Decimal Interchange Code). If you are really interested in comparing the nitty gritty details of ASCII to EBCDIC, check out the Natural Innovations web page complete with side-by-side chart:

http://www.natural-innovations.com/computing/asciiebcdic.html.

EBCDIC is not often found in the PC world, but one place where you will still encounter EBCDIC data is, you guessed it, the ICPSR! The International Monetary Fund's direction of trade data is available in its most current format only in EBCDIC data format. In order to use EBCDIC data for this particular data set in SPSS, S Plus, SAS, Stata, Eviews, or Lisrel, we first need to "translate" the data from EBCDIC format to ASCII format. In the case of this

particular data set, I was only able to find one data management program or routine that could accomplish this task while keeping variable names and formats intact: The PROC DATASOURCE procedure in SAS 8.2.

PROC DATASOURCE

PROC DATASOURCE uses a specific handling statement for this particular type of data (from SAS 8.2 System Help):

PROC DATASOURCE: FILETYPE=IMFDOTSP--Direction of Trade Statistics, Packed Format

The DOTS files contain time series on the distribution of exports and imports for about 160 countries and country groups by partner country and areas.

Data Files	Database is stored in a single file.	
INTERVAL=	YEAR (default), QUARTER, MONTH	
BY variables	COUNTRY	Country Code (character, three-digits)
	CSC	Control Source Code (character)
	PARTNER	Partner Country Code (character, three-digits)
	VERSION	Version Code (character)
Sorting Order	BY COUNTRY CSC PARTNER VERSION	
Series Variables	Series variable names are the same as series codes reported in *IMF Documentation* prefixed by D for data and F_D for footnote indicators.	
Default KEEP List	By default all the footnote indicators will be dropped.	

After downloading this particular EBCDIC formatted data set to my hard drive, I assembled the following SAS file using PROC DATASOURCE to open the IMF direction of trade data in SAS 8.2:

```
FILENAME TRADE 'C:\Data\directionoftrade\da7628o.ebcdic';

PROC DATASOURCE FILETYPE=IMFDOTSP

 INFILE=( TRADE )

 INTERVAL=YEAR

 OUTSELECT=OFF

 OUT=TRADEVAR

 OUTBY=TRADEBY

 OUTCONT=TRADECONT

 OUTEVENT=TRADEEV;
```

```
KEEP _ALL_;

KEEPEVENT _ALL_;

RUN;
```

FILENAME tells SAS where to access the data file; the remainder of the SAS code is simply setting the some of the options within PROC DATASOURCE for this particular file. Below is a list of all the possible options within PROC DATASOURCE (from SAS 8.2 System Help):

PROC DATASOURCE: Options

> **PROC DATASOURCE** *options;*

The following options can be used in the PROC DATASOURCE statement:

ALIGN= *option*	ASCII	DBNAME= '*database name*'
EBCDIC	FAMEPRINT	FILETYPE= *entry*
INDEX	INFILE= *fileref*	LRECL= *lrecl*
RECFM= *recfm*	INTERVAL= *interval*	OUT= *SAS-data-set*
OUTALL= *SAS-data-set*	OUTBY= *SAS-data-set*	OUTCONT= *SAS-data-set*
OUTEVENT= *SAS-data-set*	OUTSELECT= ON | OFF	

For a complete listing of the supported data types that PROC DATASOURCE can work with, open SAS 8.2, click on the System Help drop-down menu at the top of the screen, select SAS System Help (which should be the first option on the menu), click on the Search tab, type PROC DATASOURCE into the keyword field, click on the List Topics button, select PROC DATASOURCE: Supported File Types from the Select Topic to Display menu, and click on the Display button to read through the many supported file types for this powerful SAS procedure.

Conclusions

Outside of political science, economics, and possibly finance, most researchers at UNT will not have a particular cause to access the IMF direction of trade data from the ICPSR. However, since PROC DATASOURCE offers the researcher a multitude of options for moving data into SAS (Bureau of Economic Analysis, Bureau of Labor Statistics, Center for Research in Security Prices, and the Organization for Economic Cooperation and Development to name a few), application of this procedure is not limited to these fields.

Until next time, happy computing trails and best wishes in your research endeavors!

Benchmarks Online

WWW@UNT.EDU

Recommendation for Dynamic Web Content Hosting Environment at UNT

By Shannon Eric Peevey, UNT Central Web Support

As completely static Web content begins to slowly disappear from the World Wide Web, more and more Websites are relying on various dynamic content engines to generate the pages that we see. (For example, the University of North Texas uses Macromedia ColdFusion, PHP, and Zope to generate many of its wonderful pages). This means that our Web hosting environment is no longer going to be made up of a simple Web server with a location for content manipulation, which in turn means, that our environments are becoming much more complex. We now have five or six points of failure, instead of one. Obviously, as a setup becomes more complex, we have all the more reasons for implementing some sort of mechanism for us to make sure that when one of the components of our Web hosting environment fails, our end-users experience is not interrupted. In an attempt to implement these mechanisms, it has been my privilege to explore many of the options that are available to us. During the rest of this article, I will be discussing our current component technologies that are in production at UNT, the mechanisms that are available to help bring up the quality of service for end-users, and then evaluate and recommend these mechanisms, based upon testing and reviews of these mechanisms.

Background

It has been my pleasure as a system administrator to be able to work with many of our great Web developers during my time at UNT. Some of them full-time staff, like myself, but also a plethora of student workers, graduate assistants, and outside contractors. This variety has been a pleasure, as every one of these people brings something unique to the table, with regard to technology, technique, and design. Some are geared more towards design, some more towards technology, but all are excited about doing something unique to place their stamp on the universities Web presence. In response to these diverse needs, it has been necessary to offer a variety of technologies to help fit a greater majority of the needs of our developers. Therefore, we currently offer the following technologies:

1. Apache Web server

2. Macromedia ColdFusion MX

3. PHP

4. Zope server (languages: Python, DTML, TAL)

5. MySQL database server

6. PostgreSQL database server

7. Microsoft SQL Server (a derivation of the Sybase database server)

We have seen much user satisfaction with the technologies that we offer, and have had a growing developer base, as developers begin to integrate dynamic content into their static sites. This has been an exciting time for us, as the dynamic content server has grown from 100,000 hits a month when I started, to over 2,000,000 hits a month at the present time. But, this has also placed quite a bit of load on each of the component technologies, as we have moved from a dual 300 MHz machine with 256 MB of RAM, to a dual 1 GHz machine with 4 GB of RAM, to five machines running one or two component tools apiece. (All in a little over two years!) With this complexity, has come failure. Most of the time, these failures can be pointed to either the Macromedia ColdFusion Server, or the Microsoft SQL Servers, but nevertheless, the downtime can be catastrophic to our quality of service. Therefore, it has been decided that it is time to take the next step

and put into place some sort of mechanism. It has been my groups job to explore these mechanisms.

High Availability

High Availability is the infrastructure design to minimize downtime for a system. In other words, it is preventative design for an online system, in our case, that allows a component failure to automatically fall back on another machine which is running the same exact services. In simple terms, it is just duplication. We have multiple machines running the same exact copies of a component technology, with the same exact configuration, so that it can be brought online in the event of a failure. Our team understood this.

What we didn't understand, was the correct technology for this type of high availability. We had heard of clustering, and load-balancing, and every other buzz word that has been spoken on this topic, but we didn't understand what they were. (In short, clustering is the sharing of processing power and/or load over multiple machines, which act as one. (This is usually done internally on the machines by software). Load-balancing is the sharing of load over multiple machines, which are identical, by an outside tool, such as a load-balancing router, or proxy server.)

Doesn't seem like much difference, does there? In the next section, we will begin to explore the complexity of our undertaking, and how these tools are going to be used in conjunction with our component tools to bring high availability to our dynamic hosting environment.

Complexity

Our findings led us to the conclusion that our environment was too complex for a single solution of only clustering, or only load-balancing, for high availability.

First of all, we have to look at the technology of the component tools, and how they retrieve data, etc. from their source. A Web server is a daemon, or service, that sits and listens for incoming calls from clients on port 80 and 443. It then reacts to this call in a variety of ways, for our purposes here, we are only interested in requests for HTML pages.

The server has been configured to know the location of these files, so it makes an input/output call for the file on the storage device, and then it returns those pages to the client. These calls are fairly simple, (and relatively slow), so it is possible to place all of these files on a central server, and mount the location on the Web server machine. (This makes the file location appear to be local to the Web server, though it is acquired through remote calls across a distributed file system.)

Thousands, even tens of thousands, of Web servers can all mount this remote directory, and therefore, it is possible for them to access the contents of the file concurrently, (depending on how the distributed file system deals with file locking). In this case, you would place a tool, often a router, in front of the machines, and the router would send requests to the servers, randomly, or through some sort of load-checking algorithm.

The key factor here is that the distributed file systems are "slow", or slower than calls to the local file system. Therefore, it is ok to run many cheaper machines, attached to a central storage unit, with a load-balancer in-front of them taking care of the distribution of load. But, in the case of a database server, the server needs to access and manipulate rapidly changing data, which needs to be correct all of the time. (If one is familiar with relational, or even object, databases, then you know that any mistake in execution of a command, and your data and database will become corrupted, and basically unusable).

Also, the ratio of the database transactions to Web page calls is weighted quite heavily towards the database server. (For example, one call to a popular Web page on one of our machines makes over 40 calls to the database server. This page is called about 200,000 times a month, for around 8,000,000 calls to the database per month, for one page). Therefore, this "slow" distributed file system is going to become a bottleneck for our hosting environment. There might also be problems with calls being out of synch with each other, because of the distributed file system, again creating a potential situation for data corruption.

How do we create a fail-over environment for databases then? In most cases, it seems that clustering is used most often in this situation. The clustering software is usually integrated into the database server itself, and is given the control of the transactions as they are sent to the data repository. It also controls the redundancy of the data, because most of the data is duplicated across multiple machines, and even controls how that data is updated on each machine, usually through a master/slave situation).

High Availability implementation

Put simply, we need hardware and/or software that will automate fail-over and load-balancing for us in our dynamic Web

hosting environment. As mentioned in the last section, the complexity of our setup forces us to use a mixture of high availability technologies. In this section, we are going to discuss this mixture in detail.

As you may have gathered from the technology list, in the background section, and the information that was delivered in the previous section, we will:

1. implement load-balancing on all Web servers.

2. implement clustering on all database servers, (where available).

Let's break it down in detail:

1. Apache - is a Web server, so will be load-balanced. This means that we will be running multiple machines, three, with identical configurations, and a distributed file system, probably NFS, or Network File System.

2. Macromedia ColdFusion MX - this is an application server, which hasn't been discussed yet. (It is really a java application server, so most of the rules that apply to other java engines, like IBM WebSphere, apply to Macromedia ColdFusion MX.) This is a server, much like the Web server, in that it accepts calls from the Web server, and, in turn, calls other tools to perform content manipulation. It is different, in the fact that the ColdFusion MX server needs to access rapidly changing data, in the form of session variables, scoped variables, etc., much like a database. Therefore, this component will need to be clustered.

3. PHP - is, for our purposes, an Apache module that plugs into the Web server. It acts like the Macromedia ColdFusion server, but is limited in the fact that it is part of Apache. Therefore, it will be load-balanced, because the Apache Web server is load-balanced.

4. Zope - is an application server, so will be clustered.

5. MySQL database server - should be clustered, but as of yet, does not have true clustering support. At this time, there is more of a replication service, where the slaves call to the master for updates. (MySQL Manual Section 4.10.3)

6. PostgreSQL database server - should be clustered, but does not have true clustering support. As with MySQL, replication is the only option at this time. (Macdonald)

7. Microsoft SQL Server - is a database server, so will be clustered.

Recommendations

At this time, we would like to make the recommendations for creating a highly available Web hosting environment here at the University of North Texas.

First, we will list the high availability options that are already made for us. These have already been limited by the component tools themselves, so there is no choice to make. They are:

1. **Macromedia ColdFusion MX** – These must be clustered using the Macromedia JRun server. Macromedia ColdFusion MX is basically a tag library for Java now, so we set the server up on top of the Macromedia JRun Java engine. Macromedia JRun itself has clustering capabilities which allow for load-balancing and fail-over for each server. (Macromedia, Inc.)

2. **Zope** – Zope is unique in that "all three pieces of a three-tier architecture (presentation, logic, and data) can be managed in one object-based facility." (Zope Corporation ZEOFAQ) Therefore, ZEO, or Zope Enterprise Objects, allow "all three tiers to be scaled and distributed in one facility." (Zope Corporation ZEOFAQ) By placing ZEO, which is basically a single object, into the flow of data, etc., we basically allow clustering from any instance of Zope in the world.

3. **MySQL database server** – MySQL "supports one-way replication internally. One server acts as the master, while one or more other servers act as slaves." (MySQL Manual 4.10.1) Basically, the master keeps track of all transactions in a logfile, and the slave contacts the master and asks for any transactions that have taken place since their last conversation. As mentioned before, this is not really clustering, but until true clustering is implemented, (they say sometime next year), this will have to work.

4. **PostgreSQL database server** – eRServer is the replication tool that is available for PostgreSQL. It was released under the BSD license in August 2003, and takes the place of the older rserv utilities. "It is a trigger-based single-

master/multi-slave asynchronous replication system." (GBorg development team) This works essentially like the MySQL database, but works off of triggers. Triggers are actions in the database that are executed when a particular sequence of events takes place.

5. **Microsoft SQL Server** – This proprietary database is, like most of Microsoft's products, married to the Microsoft Windows operating system. Therefore, we are limited to using their clustering and database tools. Our recommendation is to use Microsoft SQL Server 2000, (there isn't a true version for 2003 yet), on a Microsoft Windows 2003 operating system. The reason for MS Windows 2003, is that server clustering comes as part of the operating system, so you do not have to buy any additional products to cluster the OS. Microsoft SQL Server has replication features that work very well with the operating system clustering, so there is really no choice here.

Finally, the issue of Web server high availability rises. We are basically locked into clustering or load-balancing solutions on every aspect except the Web servers. our group has found that there are essentially two options available for load-balancing our Web servers. We can use the load-balancing routers that are already available from the Unix Services team, or we can create our own highly-available Web infrastructure using Linux-HA.

The Linux-HA option

First, let us discuss the Linux-HA option for a moment. The goals of the High Availability Linux project are to "Provide a high-availability (clustering) solution for Linux which promotes reliability, availability, and serviceability (RAS) through a community development effort." (High-Availability Linux Project) This project uses a group of Unix tools to accomplish this, including: Code, which pulses a machine to see if it is live, and Fake, to take over an IP address of a failed machine. These tools basically allow machines to monitor each other, and then take their place in the case of failure. Now, on each machine, you will need to have duplicate component tools and also the Linux-HA tools configured to take over the place of the live server. Oftentimes, there is a front-end machine that will act as a load balancer, and will direct traffic to the various machines, which uses various mechanisms to redirect http calls to the machines.

Linux-HA is used in a large number of production sites, with The Weather Channel saying, "From my experience, I was extremely impressed with the ease of installation/compilation on linux, and the stability of the cluster. This cluster has been running for approximately eight months (with forced manual failovers for updates and maintenance), and heartbeat has been running solid with virtually no interruptions in service." (Joe Henggeler), and Motorola says, "All machines are reclaimed - obsoleted from the desktop when we moved to Win2K. We moved to Linux for this service because SMB on Solaris is flaky as hell (our experience) and on HP-UX is slow slow slow." (Damian Ohara)

Load-balancing routers

Second, we can take advantage of the load-balancing routers that are currently being used by many of the other servers here at UNT. These are Radware Application Switch II load-balancers that are configured for gigabit speed ip applications. The Unix Services team is responsible for them, meaning that we wouldn't have to take the time to configure and maintain the hardware, etc., and they are optimized to work efficiently with "asymmetric traffic characteristics… can obtain throughput of 15 to 20 Gbps". (Radware) They also have health monitoring and traffic redirection built into them, so that we do not need to program these capabilities, or install software that can monitor health of the machines.

Basically, the Radware Application Switch II has everything that we need for load-balancing our Web servers. Plus, we do not have to administer these machines, and the setup time is limited to the time it takes for the Unix Services team to get it setup for us, and, the university has been using them successfully for over two years. (Load-balancing our www farm, which gets over 36 million hits a month). They have been very dependable, with only an occasional hiccup in service. (This is very rare, as they have a fail-over Application Switch II to take over, in case the of a failure at the switch.) Therefore, my group recommends this solution for load-balancing our Web servers.

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Benchmarks Online

Short Courses

By Claudia Lynch, *Benchmarks Online* Editor

A few fall Short Courses are still available. Please consult the Short Courses page to see the to see the course schedules and to register for the classes of your choice.

Customized Short Courses

Faculty members can request customized short courses from ACS, geared to their class needs. Other groups can request special courses also. Contact ACS for more information (ISB 119, 565-4068, lynch@unt.edu).

Especially for Faculty and Staff Members

In addition to the ACS Short Courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the Human Resources Department, the Center for Distributed Learning, and the UNT Libraries' Multimedia Development Lab. Additionally, the Center for Continuing Education and Conference Management offers a variety of courses to both UNT and the general community, usually for a small fee.

GroupWise Training

Information about GroupWise training can be found at the GroupWise course site. As stated on the site, The GroupWise 6 course has been divided into 3 classes, which are spread out through the semester. **All classes are held in the Eagle Student Services Center, Room 152 (Training Lab) from 10 a.m. - Noon.** The remaining class schedules are as follows:

- **Intermediate GroupWise 6 - Class 3** (Productivity with GroupWise) - November 18 or 20. Download the manual: Basic GroupWise 6, Vol. 3.

- **Document Management -** November 19. Download the manual: Document Management (Chapter 10)

You can register online by clicking here or by calling Human Resources at 565-4246.

If would like to have a Basic GroupWise seminar for your area, please contact Jason Gutierrez, Network Computing Services, jasong@unt.edu .

Center for Distributed Learning

The Center for Distributed Learning offers courses especially for Faculty Members. A list of topics and further information can be found at http://www.unt.edu/cdl/training_events/index.htm

The center also offers a "Brown Bag" series which meets for lunch the first Thursday of each month at Noon in Chilton 245. The purpose of this group is to bring faculty members together to share their experiences with distributed learning. One demonstration will be made at each meeting by a faculty member with experience in distributed learning. More information on these activities can be found at the Center for Distributed Learning Website.

Technical Training

Technical Training for campus network managers is available, from time to time, through the Network Computing Services (NCS) division of the Computing and Information Technology Center. Check the NCS site to see if and when they are offering any training.

UNT Mini-Courses

There are a variety of courses offered, for a fee, to UNT faculty, staff and students as well as the general public. For additional information surf over to http://www.pware.com/index.cfm?clientid=2694a

Alternate Forms of Training

Many of the General Access Labs around campus have tutorials installed on their computers. For example, the College of Education has Macromedia Tutorials for Dreamweaver 4.0, Flash 5.0 and Fireworks 4.0.

The Training Web site has all sorts of information about alternate forms of training. Computer Based Training (CBT) is one of the alternatives offered. Of particular interest are courses available via SkillSoft/SmartForce.

PLEASE NOTE: The SkillSoft/SmartForce server has been taken offline because the Campus application was not compatible with the necessary patches needed for a robust and secure Windows2000 server. *All of the courses listed at the old SmartForce Website are still available on CD-ROM for your use by contacting Claudia Lynch in Academic Computing Services.*

For further information on the future of CBT at UNT, see "Computer-Based Training at UNT: Aargh, I'm so confused!" in this issue of *Benchmarks Online*.

Benchmarks Online

Staff Activities

Transitions

New Employee:

- **Michael Teer**, Datacom Technical Assistant.

New Full-time Employee:

- **Richard Sanzone**, formerly part-time Computer Support Representative, Computer Support/Helpdesk, has accepted a new full-time programmer position with the Helpdesk.

No longer working in the Computing and Information Technology Center:

- **Dan Freise**, UNIX System Administrator.

- **Jamie Young**, CPU Operator (part-time).

Awards, Recognition, Publications

Dr. Joneel Harris, Associate Vice President for Enrollment Management and Co-Director of the EIS project, had a guest article in the November 7 issue of *Inhouse@unt*. Her article, "UNT implementing new Enterprise Information System," can be viewed here: http://www.unt.edu/inhouse/eis.htm

Congratulations to **Shannon Peevey**, UNT Central Web Support, and his wife, Cecilia, on the birth of their son, Alistaire Cameron. on November 12. Congratulations also to **Ronnie Seay**, Production Control Specialist, and his wife Tammie, on the birth of their son,.Adam Jeffrey, on November 14.

Barbara Heffley, UNT Fiscal Data Systems Programmer/Analyst, was recognized for her 15 years of service to UNT in the November 7, 2003 issue of *InHouse@unt*.

The following people were recognized as Soaring Eagles in the November 2003 issue of the *Human Resources Newsletter*: They will receive their awards at the President's Staff Lunch on February 24, 2004.

- **Philip Brooks**, Production Services Manager**, Tracy Hansen**, CITC Computer Support, **Matt Kernan**, CITC LAN Technical Assistant, **Mohammad Khan**, Programmer on UNT Fiscal Data Systems Team, **Brenda Kirk**, CITC Network Manager, **Rebecca Padia**, CITC

Administrative Services Officer, **Dennis Scroggins**, Program/Project Specialist, EIS Project, **Ronnie Seay**, Production Control Specialist, and **Chris Titus**, Report Distribution Assistant, all pitched in to make sure that all the preparations were taken care of for an important meeting at the Research Park.

- **Rebecca Padia**, CITC Administrative Services Officer, was recognized for "going the extra mile" in ensuring that mainframe ID's were assigned and distributed to the State Auditor's office.

Benchmarks Online

Page One

Campus Computing News

Holiday Hours

Computing Outage Notification Mailing List Now Available

Computer-Based Training at UNT: Aargh, I'm so confused!

Student Computing Services Survey to be Launched Online

EDUCAUSE Reloaded

Today's Cartoon

RSS Matters

The Network Connection

Link of the Month

WWW@UNT.EDU

Short Courses

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Subscribe to Benchmarks Online

Don't Forget Our Monthly Columns!

By Claudia Lynch, *Benchmarks Online* Editor

In addition to our feature articles, *Benchmarks Online* publishes monthly columns that are focused on specific aspects of computing here at UNT (and beyond, in some cases). Check out what is waiting for you this month:

- **RSS Matters** - "RSS Matters" is the monthly column written by the Research and Statistical Support Group in Academic Computing Services. Their articles focus on topics of a statistical and/or research methods nature. **This month's article is by Patrick McLeod and is titled "Got EBCDIC? Take This PROC and Call Me in the Morning"**

- **The Network Connection** - "The Network Connection" may well be the longest running column in computer publishing history. Certainly in University of North Texas computer publishing history.

  This month's column is titled "SPAM, SPAM, and more SPAM" Dr. Baczewski discusses the possible implications of the recently passed "Controlling the Assault of Non-Solicited Pornography and Marketing Act of 2003."

- **Link of the Month** - As it says on the top of the "Link of the Month" page, "each month we highlight an Internet, USENET Special Interest Group (SIG), or similar mailing list(s) or Website(s)." Lately we have been confining ourselves to featuring UNT specific sites. **This month we focus on the UNT Events Calendar.**

- **WWW@UNT.EDU** - "WWW@UNT.EDU" is a monthly column written by the Central Web Support Group in Academic Computing Services. The topics usually focus, in some way, on World-Wide-Web-related issues. **This month's topic is "Recommendation for Dynamic Web Content Hosting Environment at UNT."**

- **Short Courses** - Every semester, Academic Computing Services (ACS) offers short courses on computer-related topics, many of them having to do with statistical research. This column keeps you up-to-date on what is being offered and when as well as other training opportunities. **This month, read all about the GroupWise courses, changes and CBT, and the Fall Short Course offerings.**

- **IRC News** - As their Webpage says, "the IRC is an advisory and oversight body created to foster communication and cooperation between and among UNT information resources providers and users." We publish the minutes of the IRC meetings each month, when they are available. This

month you can read the October IRC minutes.

- **Staff Activities** - This column focuses on new employees, people who are no longer employed at the Computing and Information Technology Center, awards and recognitions and other items of interest featured here.