Information Technology
Newsletter

Delivering Services via the Internet

Donald R. Riley, Associate Vice President for Academic Affairs and Acting Director of Information Technology

You can hardly pick up a publication these days without reading something about how organizations throughout the private sector, government, and education are using the Internet (including corporate "Intranets") and web servers to provide widespread access to information, provide more customer-responsive services, and improve important business processes. In our own environment, use of such tools will be increasingly important in improving the overall learning environment for student, both inside and outside the classroom. After all, the overall student experience consists of many experiences that relate, directly or indirectly, to the actual time spent in a classroom or studying a particular topic.

Difficulty navigating through the information maze at the University often frustrates many students, as well as others. Internet-based services using familiar tools such as web browsers are an important strategy for helping the University become more responsive to our "customer community" — students, faculty, staff, parents, alumni, legislators, and the general public. These services are increasingly important enablers for new strategic initiatives in support of the U200 vision, including "distance learning."

In this issue you can read about the Office of Information Technology's involvement in two projects that advance the University's goals of making it easy to access and manage important resources. Both projects involve distributing information via the World-Wide Web and required the cooperation of multiple-partners within and outside OIT. These visible projects give people a glimpse of the often invisible role OIT staff play in serving the University's customers, students.

The TA Web Project 1996 focused on enhancing specific classes, using the web to provide different kinds of supporting information for a variety of classes.

In recognition of the leading role the University is playing in the development of web-based "front-ends" to administrative systems and processes, the University was co-host, with Indiana University and the University of Delaware, of the Conference on Web-based Administrative Systems in Higher Education. The conference covered issues such as improving the course registration process. University staff were very prominent in the conference's content, providing the content for three of the conference topical sessions.

As you read about these projects, I'm sure you'll realize we're making significant progress. OIT and other University staff are working hard to provide leading edge services appropriate for a world class university, to support the core missions of teaching and learning, research and discovery, outreach and service. Think about these changes and realize more exciting changes are on the way. ◼
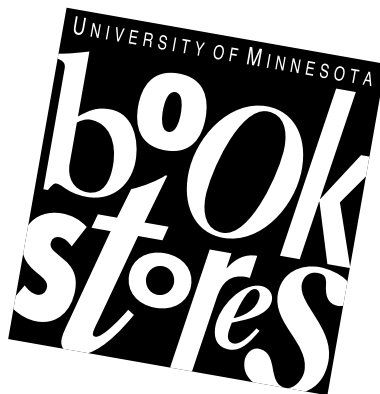
November 1996 ▼ Contents

Some funds are provided by the University of the Minnesota Bookstores.

For more information about the computer products sold at their Computer Store visit their web page at <http://www.computerstore.umn.edu>.

You can access the Bookstore's Books in Print server at <http://bip.bookstore.umn.edu/>.

▼ Help   Monday–Friday

CCO (BASIS/AIS), 7am–4:30pm 624-0555
Central Systems, EPX, NVE, UZ, VX, VZ 6-8366
    9am–4pm, requires username and password
    Web page: `http://www.umn.edu/ccs`
E-mail & Internet, 9am–4pm, UM accounts 6-7676
    by e-mail for U of M: `help@tc.umn.edu`
Microcomputers, Distributed Systems
    9am–4pm, 152 Shepherd Labs 6-4276
    1-4pm, 93 Blegen and 50 Coffey Hall
    Web page: `http://www.micro.umn.edu`
NTS: 24-hour Repair Desk 5-0006
    web page: `http://www.nts.umn.edu`
Training Library, ADCS Short Courses 5-1300
Password: Forgot it? Call the Micro helpline 6-4276
    Students go, in person, to any Micro helpline.

▼ General   Phone

Academic & Distributed Computing Serv. 5-1300
Computer Store, Williamson Hall 5-3854
CUFS 4-1617
Digital Media Center 5-5055
Disability & Computing Services voice/tty 6-0365
Engineering Services 7-4525
Data Custodians • Data Warehouse Databases
    IDEA web page `http://notes.ais.umn.edu`
    Facilities Mgmt, Kris Boike • SPAM 6-7896
    Financial Sys Support, CUFS Help • CUFSRDB .. 4-1617
    Grad School, Genny Rosing • GSRDB 5-9839
    Human Res Info Ser, Gary Ogren • APSO 7-4341
    Inventory Ser, Luke Madsen • INVENRDB 6-8217
    Ofc of the Bursar, Sandy Pearson • STARS 6-8698
    Ofc of Human Res, Nancy Highsmith • SDRDB 4-8374
    Ofc of Planning & Analysis, John Kellogg 5-3387
    • AARDB/MARDB • CLRDB • FARDB • RETDB • RRDB
    Ofc Scholarships&FinAid, Phil Morgan • SCHOL 4-6586
    Payroll, Ann Beattie • HERDB 4-3869
Interactive Voice Response Grade Inquiries 4-5200
NTS (Networking & Telecom Services) Helpline .. 6-7800
Statistical Support, SAS 4-3330
    SPSS, BMDP, Minitab (VX/EPX) 6-8366
Workstation Support Group 4-7486

▼ Dial-in Computer Access

Internet/SLIP: up to 28,800 pbs (V.34) 627-4250
Internet/SLIP: ADI and ITE (with MKO) 3-0291
SecurID Access High Speed (V.32) 19200-N81 6-1061
    2400-N81 (no parity/8 data bits/1 stop bit) ... 6-7770

▼ Internet Addresses

LUMINA (Library): `admin.ais.umn.edu`
News Server: `newsstand.tc.umn.edu`
Gopher (public can log in as `gopher`):
    `consultant.micro.umn.edu`
OIT web page: `http://www.umn.edu/oit`
U of M web page: `http://www.tc.umn.edu`
Information Technology Newsletter web page
    `http://www.umn.edu/oit/newsletter`
University of Minnesota Bookstores' web page
    `http://www.bookstore.umn.edu`

Web Project 1996 Announces Six TA Winners

Cheryl L. Towler, Multimedia Consultant, Digital Media Center
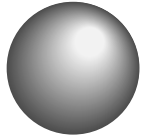
The Digital Media Center, the Arts, Sciences, and Engineering Provost's office, and the Professional Studies Provost's office sponsored the TA Web Project 1996. This project was initiated to:

- advance the teaching and learning goals of the University of Minnesota by using Internet tools and specifically the World-Wide Web

- encourage faculty and teaching assistants to use information technology in innovative ways

- enhance students' learning experience

- provide students access to course information and interaction with other learners, anytime and anyplace.

- improve students' information technology literacy skills

- share interdisciplinary teaching methodologies

- share source codes for web documents

The Digital Media Center will award six, not five, Teaching Assistants $1000 each for their outstanding course web site designs. These designs were submitted to the TA Web Project 1996. Due to the high quality designs, Shih-Pau Yen, Director of Academic and Distributed Computing Services, not only awarded six TAs, but endorsed an additional $100 for each of the finalists.

The Winners and Finalists

The six Web Project winners are listed in Table 1. The nine finalists are listed in Table 2. You may read their cover letters and browse their course sites from `<http://www-dmc.tc.umn.edu/cafe /TAawards.html>`.

More information about the project is available at its web site `<http://www-dmc.tc.umn.edu/cafe/ TA.html>`.

Participants and Judges

To participate, University of Minnesota Twin Cities TAs applied for and were accepted into the project. Approximately 175 TAs were involved.

Six judges evaluated the 97 contest entries. They chose the top 15 course web sites, ranked them, and then met to choose the five winning sites. The judges requested that the Digital Media Center award six winners due to the small margin between the fifth and sixth course web sites.

The six judges were Dr. Steve Smith, Political Science Department; Dr. Gabe Weisberg, Art History Department; Dr. Gary McLean, Vocational and Technical Education Department; Lise Hansen, Online Courseware Developer, Minnesota Extension Services; Bruce Bromberek, President, Graduate and Professional Student Assembly (GAPSA); and Linda Jorn, Acting Director, Digital Media Center.

The Digital Media Center `<http://www-dmc .tc.umn.edu>`, a collaborative venture of the Office of Information Technology and University Libraries, provides technical and design support to University of Minnesota faculty and their student and staff assistants who develop multimedia applications for teaching and learning. ■

Table 1: The 6 Web Project 1996 Winners

TA Winners	Course	Topic	Address for Course Web (URL)
Brent Dahlen	Computer Science 1001	Introduction to Computers for Non-Majors	`http://www.itlabs.umn.edu/classes/csci1001/`
Laurie Dickinson	English 3113	Survey of British Literature, the Nineteenth Century	`http://english.cla.umn.edu/courseweb/3113/home`
Kristin Kramer	Ecology, Evolution, and Behavior 5129	Mammalogy	`http://biosci.cbs.umn.edu/class/eeb/5129/index.html`
Daryl Lee	Cultural Studies and Comparative Literature 3321	Theories of Culture	`http://cla-net.cla.umn.edu/cscl/classes/cscl3321/cscl3321.htm`
Tatiana Vislova	Geology 1031/5061	Earth System Science from the Perspective of Minnesota Geology	`http://www.cs.umn.edu/~checheln/geo/`
Dawn Werner	Civil Engineering 3700/ Geological Engineering 3700H	How to Model It	`http://www.ce.umn.edu/courses/ge3700/`

Table 2: Other Finalists in Web Project 1996

TAs	Course	Topic	Address for Course Web (URL)
Ryan Armbruster	General College 1132	Biological Sciences: The Human Body	`http://www.gen.umn.edu/courses/1132/index.html`
Ajay Bhate	Mechanical Engineering 5265	Computer-Assisted Product Realization	`http://www.menet.umn.edu/~bhate/temp/TA_web/main.html`
Dave Doyle	Computer Science 3101	Introduction to FORTRAN for Scientists and Engineers	`http://www.itlabs.umn.edu/classes/csci3101/`
Jennifer Joffee	Art History 3014	Art of India	`http://www.umn.edu/arthist/arth3014/india.htm`
Dawn M. Kitchen	Biology 1106	General Zoology	`http://biosci.cbs.umn.edu/class/biol/1106/`
Elena Litchman	Ecology, Evolution, and Behavior/Geology 5601	Limnology	`http://www.cbs.umn.edu/class/eeb/5601/index.html`
Mark Lutterman	Economics 5331	Economics of Development	`http://www.econ.umn.edu/~lutt/f96_5331/index.html`
Mary Heather Smith	Composition 3033	Writing for the Health Sciences	`http://composition.cla.umn.edu/courseweb/3033/home.html`
Eva C. Young	Chemistry 3306	Organiz Chemistry Laboratory II	`http://www.chem.umn.edu/class/3306/default.html`

Web-based Administrative Systems in Higher Education

Office of Information Technology Staff Contribute to Conference
Cindi Plaisance, Integrated Systems Solutions

Office of Information Technology (OIT) staff played a major role in "WebDev 96," the first conference to focus on development and delivery of effective World-Wide Web-based administrative systems in higher education. Gary Hornyak, manager of the OIT's Data Management and Professional Services groups, served as co-chair of the conference, which was held in October 1996 at Indiana University.

Conference organizers noted that when individuals and institutions began developing web sites, most sites were simply sources of information. More recently, however, people have been experimenting with interactive database access on the web – sharing information back and forth and conducting business on the web.

Indiana University and the University of Minnesota have been leaders in exploiting this new dimension of the web, with Indiana University developing one of the web's first financial database access systems in higher education, and the University of Minnesota developing its web registration system.

With both projects receiving numerous requests for more information about these systems, it became clear that the time was right for hosting a conference on the subject. This proved to be the case when conference registration filled rapidly, with waiting lists, not long after being announced.

Christine Comaford, a well-known technology strategist, columnist and industry commentator, was keynote speaker for the conference, which featured instruction and examples of data retrieval and analysis, on-line transaction processing, report generation, training and documentation for higher education administrators in the financial, student services, and technical areas.

In addition to organizing the conference, Gary Hornyak presented two sessions. Other OIT Integrated Systems Solutions' staff who presented at the conference included Bob Malos of the Data Warehouse group, Mark McCahill of ISS/ADCS, and Cheryl Vollhaber of the Student Information Systems group. A brief summary of their presentations, with comments, follows.

Web Development Methodology

Gary Hornyak presented this session with Tom Hammergren of Indiana University.

There are hundreds of alternative technologies and approaches associated with building a mission critical administrative systems web application. Where do you begin? Do you want UNIX or NT? Do you need a commerce server or is that overkill? Should you build or buy? If you build, what tools are right for the job and right for you?

This presentation discussed the range of products and methodologies available for the development of a rock solid web application. It also included an overview of the range of tools and techniques that are available and provided some specific examples of methodologies that work well for large scale web application development.

Web Application Development Administration Issues

Gary Hornyak presented this session with Don Grinstead of Indiana University.

After several sessions demonstrating what can be and has been done with respect to web applications, this session focused on obstacles and opportunities facing developers. In an often humorous session, each presenter talked about traps, and other hazards that developers will need to confront and offered suggestions for overcoming them.

FormsNirvana

Mark McCahill presented this session.

This session provided an overview of the FormsNirvana system currently in development within OIT. FormsNirvana is a request routing and approval system built from non-proprietary Internet standard technologies including e-mail, World-Wide Web, and digital signatures.

Users compose requests by filling out a dynamically created web form, and a server-based routing/approvals engine automatically routes the request to appropriate people or programs for action. Request originators can view a pending request's status at any time, and the approved requests can be automatically posted to a back-end system (such as a general ledger). Request approvers are notified of requests requiring their attention via e-mail, and can then approve or deny requests either via digitally signed e-mail or a web interface.

Since FormsNirvana is designed as a general purpose system, this flexible routing system can be used for both financial and non-financial forms from any web client. FormsNirvana is an enterprise solution for virtually any approval system development with sufficient security for the needs of financial applications.

Beyond Web Registration: a Radically Different Approach

Cheryl Vollhaber presented this session with Michael Handberg of the Office of the Registrar's Web Team.

This presentation explored a radically different philosophy for web site design along with the positive effects it is having on students. It also showed how University of Minnesota employees are changing the way they think about serving students.

With an average of 54,000 students each year (making it one of the largest in the country), the University of Minnesota has special challenges for delivering information. This web approach attempts to personalize a student's life within the University by offering on-line digital assistants, custom course planners, quick financial aid calculations, a do-it-yourself customized fee statement at the end of each registration session, and even campus maps.

Cheryl gave a brief overview of the web system which led into an on-line course registration session. Michael took the audience on a web tour of the course guide, colorful faculty pages, the camera at the University of Minnesota Bookstore, and upcoming event pages. The web tour highlighted examples of the latest technologies including Java, Shockwave, cgi programming and database connectivity to legacy systems. The presentation ended with a 5-minute video of WCCO News' coverage of the entire system.

Web/Database Interaction

Bob Malos presented this session with Jay Sissom of Indiana University.

Databases are a critical part of application development. Most programs written today need to interact with some form of a database. As web application development matures, reliable database access becomes an important part of application design. There are many methods of interfacing web applications with a database. This presentation demonstrated some database applications for the web and explored the many options available to connect databases to the web.

In addition to this presentation, Bob participated in the conference showcase, in which selected registrants and vendors demonstrated their web applications, software solutions, or approaches. Bob demonstrated the Data Warehouse group's Web Ad-Hoc Query Builder, which you can check out at <http://notes.ais.umn.edu/query_0.htm>. He also showed a Lotus Screen Cam movie of the 'Reporting Template' – a tool that lets us turn a query into a full-featured web report in only minutes.

In the next few weeks, the web page for this session will also include a guide for finding Web-Database Development tools and Screen Cam movies showing the Data Warehouse web tools.
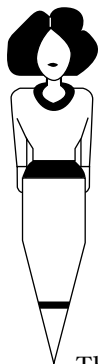
For More Information:

More information about the conference, including conference abstracts, proceedings, and presentations, is available on the web at this URL: <http://webdev.indiana.edu>.

You'll also find an entry form for WebDev 97 at this site. ■

SDRDB: Staff Demographics Reporting Database

Andrea Dahl, Integrated Systems Solutions, Data Warehouse

In the October issue of our newsletter we began a series on the Data Warehouse that the Office of Information Technology maintains. This month's focus is on the Staff Demographics Reporting Database, also called SDRDB.

A Bit of SDRDB History

The SDRDB (also known as DEMO on IDEA) was created in April of 1986. This database contains information about current and retired Academic and Civil Service staff. The types of data carried include home addresses, work addresses, phone numbers, departments worked for, payroll class title, etc. This data is used to generate the printed University of Minnesota staff portion of the Student/Staff Directory; it also feeds the on-line Gopher phonebook for staff.

In late 1989 a menu driven system for producing reports and mailing labels from this database was developed by Administrative Information Services (these AIS functions are now handled by the Central Computer Operations unit within OIT). This system was developed to facilitate the use of the database's information by non-programmers. In addition, views of the tables excluding confidential data (SSN, home address and phone number, etc.) can be accessed by the general public.

The DEMO tables are refreshed nightly from the operational DB2 Staff Demographics database.

SDRDB Data Custodian

The Data Custodian for the SDRDB is Nancy Highsmith, Human Resources 624-8374

What's New: a Labels Test

The Data Warehouse is currently testing a labels option. The web page that allows you to generate labels creates a PostScript File; it also gives you the option of downloading or printing the labels directly. If you would like to test it out go to this location: `<http://notes.ais.umn.edu/labels.htm>`.

This web page is still under construction and is in an experimental state. Let us know what you think of it.

Want to Learn More?

You have several options for contacting us. Your first step for exploring the options available in the Data Warehouse is to get an IDEA (SYBASE) userID, which you can obtain by requesting an access form.

☐ Phone and E-mail

Call the Central Computing Operations Customer Assistance Center at 624-0555 to request access forms or ask to speak with someone to learn more about IDEA. Send an e-mail message to `<dw-training@cafe.tc.umn.edu>` and request information on the *free* Data Warehouse Primer.

☐ Gopher and the Web

Log onto the IDEA Gopher site `<GOPHER://gopher.ais.umn.edu>` and choose *IDEA Information and Updates*. All on-line documentation on the Data Warehouse is kept here. Using a web browser, such as Netscape or Mosaic, log onto the IDEA World-Wide Web site and check it out at this location (URL): `<http://notes.ais.umn.edu>`

Answer to October's Quiz

Query: What are the e-mail addresses for everyone located in my building?

Answer: The answer is available from the IDEA web page's *Query* section `<http://notes.ais.umn.edu/mainqnr.htm>`. Below is the query to get that information from the Staff Demographics (DEMO) database. To complete this exercise you must have an IDEA userID and password – although you can use a guest (test ID) to access information about the data warehouse.

```
SELECT a.first_name, a.last_name, a.electr_id1
FROM demo..sdr_staff_info a
WHERE a.bldg_name = 'W B O B'
ORDER BY a.last_name
```

Tell Me More About Data Warehouses

A Repository of Data

A data warehouse is a repository of data from different departments such as Accounting, Payroll, and Registration that is made available primarily for information analysis and reporting. The benefits and uses of a data warehouse include allowing those with approved access to have one stop access to data that was previously available only through the central business computing systems.

With a data warehouse, data is on-line and immediately accessible via your PC or MAC. As an analysis tool the data warehouse provides trend discovery and the ability to drill down into the detail behind the trend. For example, Arizona State experienced an immediate payoff to their data warehousing project by utilizing student demographics data to win grant money.

The September issue of *Software Magazine* quotes Michael Saylor, president and CEO of MicroStrategy as saying: "With the Web, people are starting to see data sources and data warehouses as revenue generating vehicles." W. H. Inmon Executive Vice President, Technology Prism Solutions, Inc. says that a data warehouse "provides the facility for integration in a world of unintegrated application systems."

The University's Data Warehouse

The University of Minnesota has had a Data Warehouse since 1986 when Demographics data was first put on a mainframe in a DB2 database. At that time Administrative Information Services managed the data (called the data 'Institutional Data') and used a fourth generation programming language to access it.

Since that time we have added 15 databases, and we moved from the mainframe to a Relational Database Management System called Sybase and a more easily accessible client/server environment. In this environment desktop computers, rather terminals, are used. In the client/server environment access to the Data Warehouse is acquired through products like Microsoft Access, Paradox, Foxpro, the World-Wide Web, SAS, Brio Query, and others using ODBC (Open Database Connectivity).

IDEA: Institutional Data Easy Access

In 1991 we chose the acronym IDEA for Institutional Data Easy Access. We currently have 492 customers accessing the data warehouse which holds 30 gigabytes of data, and we average 13,275 hits to our IDEA web page each month. ■ Ann Warner, Data Warehouse

CAFE: the Common Application and File Service Environment

Michael Snyder, Manager, CAFE
Academic & Distributed Computing Services

624-7066 <m-snyd@cafe.tc.umn.edu>

CAFE Fills a Common Need

As microcomputer technology has advanced, many departments on campus have invested heavily in computer hardware, software applications, local area networks (LAN), and technical support staff. Frequently, these same departments have come to realize that this investment has produced limited return and instead become a source of significant ongoing costs.

In particular, investment in LAN technology has been singled out as a major area of frustration due to many factors, including poor reliability, lack of quality support, high costs of operation, and frequent staff turnover. While the benefits of LANs are clear, these problems have become roadblocks for many departments as they attempt to find a balance between budgets and current technology.

A Service for University Departments

We determined there is a significant campus need for a set of LAN-based services that deliver today's technology with controlled costs, high reliability, and quality support. In response to this need we setup a service for University departments that we call CAFE: a common application and file service environment.

CAFE delivers file storage, printing, and microcomputer applications such as Microsoft Word and Excel; it delivers these and related services to all major types of client desktops from a centrally managed server. Operating systems currently supported include DOS using Windows for Workgroups and Mac OS 7.5. Future systems include Windows 95 and Windows NT Workstation. These services are delivered using existing LANs as well as wide area network (WAN) connections and are billed to customers' accounts based on disk usage and a per user connection fee.

Control Costs Now

Currently, the CAFE team is serving over 400 customers. By controlling costs through centrally managed support functions and highly reliable, highly lever-aged server platforms, Academic and Distributed Computer Services (ADCS) delivers a product that increases return on existing technology investments. This allows the customer to focus on other activities, such as application development, end-user support, and process improvement.

Future Growth

At present, CAFE services are being designed on a Novell Netware 4.X server platform utilizing Tricord hardware. This system is capable of sustaining the needs of more than 800 concurrent users. While excellent products from manufacturers such as Novell and Tricord are serving our needs today, an important goal of the project is to design systems and processes which can continue to be effective as technology and needs change. This has been accomplished through a modular and scaleable approach to all aspects of the system, thus allowing change as current tools evolve.

This approach creates an environment that can run effectively on traditional server platforms, distributed servers, or large scale mainframe systems.

A Range of Services

CAFE Service

Common Application and File services Environment delivers workstation applications, file storage, printing, and related services to your desktop from a centrally managed server. Services are delivered utilizing existing LAN and wide area network connections.

Server Administration

Server administration services include the initial creation of the subscribing department's server platform setup; it is assumed that the equipment is owned by the customer.

Ongoing maintenance for the server platform(s) and operating system is part of this service. Nightly server backup, OS (operating system) software support, maintenance (upgrades and fixes), and resolutions of server hardware and software problems are also part of this service.

These services are offered to departments on a yearly subscription basis.

Disk-Only Service

The Disk Only service is designed for those customers who needs to share files with other departments using a shared work area.

These file sharing services operate on central platforms owned and operated by ADCS and are offered to departments on a yearly subscription basis.

GroupWise E-mail, Scheduling and Central Post Office

Depending on the type of GroupWise service the customer requests, offerings may include those listed below. All the services operate on central platforms owned and operated by ADCS or the individual departments.

• Initial creation of the subscribing department's GroupWise accounts (hardware note: this is provided on hardware owned and operated by ADCS only)

• Integration into existing University of Minnesota CAFE GroupWise domains (hardware note: this is provided on all GroupWise servers using ADCS GroupWise services)

• Integration into GroupWise SMTP gateway services (hardware note: this is provided on hardware owned and operated by ADCS only)

• Optional GroupWise remote access and web access (hardware note: provided on hardware owned and operated by ADCS only)

Another service allows integration into existing University of Minnesota CAFE GroupWise domains, thus allowing cross-post office appointment scheduling and busy checking.

All these services are offered to departments on a yearly subscription basis and operate on central platforms owned and operated by ADCS.

Paging Service

This service is designed for those customers who need to be able to contact others via Alpha-Numeric pagers.

The paging service operates on central platforms owned and operated by ADCS and are offered to departments on a yearly subscription basis.

Consider These Benefits

Here are some of the benefits of using the Common Application and File services Environment (CAFE) group:

• Hardware is located in a secure, climate controlled, computer room environment

• Hardware is connected to an uninterruptable power system (UPS)

• Updates and maintenance of the operating system hardware and software are done on a monthly basis

• System status is monitored 24 hours a day, 7 days a week

• Robust and monitored connections to the campus network

• Full backup and disaster recovery services

• Expert consultation on the installation and operation of server operating systems and server hardware

• Depth of support from a full-time operations staff with expertise and experience in downsized systems

The customer retains control of their data and the application but is supported by professional operation of the server hardware and operating system. This allows a customer to concentrate on the business application rather than issues of support, capacity, fault tolerance, and disaster recovery related to operation of a server and server operating system. ▣

Networking and Telecommunications Services

Answers to FAQs (Frequently Asked Questions), Vivian Skordahl

Modem Pool Alternative

Q: Is there another way to access the University of Minnesota network besides the 627-4250 modem pool which will soon have usage charges?

A: Yes! Your department can subscribe to NTS' Department Internet Access (DIA) for a one-time $21.00 start-up charge and $66.35 per month per modem line. You can lease any number of lines for designated staff. This service supports V.34, 28.8 modems and offers password-protected access.

Call the User Services Helpline for more information at 626-7800.

NTS Consultant Services

Q: Has NTS set up an e-mail address for requesting NTS consultant services?

A: Yes. We recently set up this e-mail address:

        projects@nts.umn.edu

Users should send correspondence to the projects e-mail address when requesting a Senior User Services Specialist for the following reasons.

☐ Relocation of voice and data lines which will be affected by an office move or renovation.
☐ Preliminary discussions regarding new building construction.
☐ Training support for telephone and/or voice mail features.
☐ Auditing of NTS telephone bills.
☐ Evaluation of existing telephone configurations.
☐ Wiring estimates for projects which include more than 30 jack locations.

Requests to the projects address should include the following information:

1. Contact name and phone number
2. CUFS number
3. Brief summary of project, including number of locations and projected timeframe

Requests sent to the "projects" e-mail address will be assigned to a Senior User Services Specialist who will then contact the user to schedule a meeting.

Long Distance Access to France

Q: Have there been recent changes that would affect long distance access to France?

A: Yes. Effective Friday, October 18, 1996 at 2200 (British Summer Time), most telephone numbers changed from 8-digits to 9-digits. Anyone who makes voice or fax/data calls to France will need to change stored dialing numbers in telephones, fax machines, modems, computer applications, etc.

AppleTalk at the University: History and Statistics

Lawrence Liddiard <liddiard@nts.umn.edu>, *Networking and Telecommunications Services*

Once a month, about noon, Networking and Telecommunications Services (NTS) runs a survey of the AppleTalk zones at the University. Up to Apple's 7.5 Operating System, the response from the client's system included the processor type for the Macintosh, such as Centris 610 or PowerMac 6100. With the start of cloned systems, Apple now just reports the level of the operating system. The 2-Oct-96 report had 2,448 Macintosh systems only reporting 7.5 system versions.

This survey takes about an hour to run and only catches Macs or printers that are connected at that time (for example; only those 40 to 60 PowerBook users connected when the sweep hits their AppleTalk zone). Thus it is a lower bound on the actual total number of University Macintoshes and printers that would be found by continuous monitoring. Table 1 shows survey results for 1991-1996.

System 7.5.5 Update for Macs

Apple recommends that any Mac (or Mac OS compatible) that is running System 7.5.3 install this newest release: update 7.5.5. (You must have system 7.5.3 installed to use this update.) Update 7.5.5 eliminates some causes of system freezes, such as some Type 11 errors on PowerPC-based systems. The performance improvements in the 7.5.5 update are primarily for systems that use virtual memory.

Before You Install

These instructions are from the *About System 7.5.5 Update* document.

You should use the Disk First Aid application program before you install the System 7.5.5 Update to check your hard disk for problems. Disk First Aid comes on the System 7.5.5 Update, Disk 1 disk and on the Disk Tools disk that came with your computer. Follow these steps:

1. Insert the System 7.5.5 Update, Disk 1 disk into the floppy disk drive and double-click its icon to open it.

2. Double-click the Disk First Aid icon to open it.
3. Click the icon for the disk you are installing software on.
4. Click Verify.
5. If Disk First Aid tells you your disk appears to be OK, choose Quit from the File menu. If Disk First Aid reports problems with your hard disk, see the manual that came with your computer.

Obtaining Update 7.5.5

If you have a direct connection to the Internet you can get this 3-disk update from the *ADCS Information Server*; it's on the Public Software volume. All the Microcomputer Helplines and student public labs are directly connected to the Internet and so are many campus offices. If you can see the MicroCenter Apple-Talk zone in your   menu's Chooser, you can copy the update over the network.

You can learn more about this update by reading the documents that accompany it. We'll also place the documents on our web server in the *Tips from the HelpLine* section <http://www.micro.umn.edu/Help/Default.html#Tips>. ■ Mary Kelleher

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continued: AppleTalk History and Statistics

To achieve the higher speed of EtherTalk over LocalTalk, for networking, NTS recommends newer Macintoshes with built-in Ethernet or older ones with Ethernet boards. LocalTalk connected Macs reached their peak of 1,809 in October 1993 and are now about half of that value. Since 1993, EtherTalk connected Macs have increased by about 1,000 per year. The harder change is eliminating live-forever, LocalTalk-connection-only, LaserWriters. ■

Table 1: Survey Results for one Representative Month from 1991–1996

	1991 5-Nov	1992 5-Oct	1993 6-Oct	1994 5-Oct	1995 9-Oct	1996 2-Oct
LocalTalk Macs	1,209	1,515	1,809	1,745	1,327	972
EtherTalk Macs	91	305	969	2,042	3,084	4,043
Total Macintoshes	1,300	1,820	2,778	3,787	4,411	5,015
% EtherTalk Macs	7%	17%	35%	54%	70%	81%
LocalTalk Laser Printers	537	622	794	875	821	618
EtherTalk Laser Printers	14	61	154	455	922	1,426
Total Laser&DeskWriters	551	683	948	1,330	1,743	2,044
% EtherTalk Laser Printers	3%	9%	16%	34%	53%	70%

Searching for Articles on Current Events and Hot Issues

Nancy K. Herther, Integrated Information Center of the University Libraries

Using LUMINA and selecting IN-DEXES, you will find 90 databases listed. Those who access LU-MINA as a guest – rather than logging on as a current University student, staff or faculty member – do not have access to such a wide variety of resources.

One hot topic these days for many people is college tuition. Since this involves a wide variety of issues – from public school funding to student loans to the economics of higher education – I decided to try some of the multi-disciplinary databases available through LUMINA.

After you select INDEXES you will get a short list of options. When you select the *Multidisciplinary Database* option (Table 1), you will get a list of indexes that cover a broad range of topics and resource materials. All the indexes are excellent starting points for research on topics that cross disciplinary boundaries.

Type the brief coded name for the database to access it. The contents of each database are briefly described here. Note: this is a consolidated list and includes databases which use very different search methods. All databases are menu-based and have HELP options to assist you as you do your research.

In the February 1996 issue of this newsletter we looked at the Academic Index database and how that might be useful in your research. In past issues we also looked at Current Contents, Dissertation Abstracts and LEGI-SLATE.

In this issue we will look at how *Magazine Index Plus* and *Newspaper Abstracts* can be used to help you with your research, covering current events or keeping up on campus trends.

Magazine Index Plus

When you type MAGS you are given two choices:

☐ MAGS: Magazine Index Plus, 1992-date

☐ MAGSB: Magazine Index Plus Backfile, 1980-1991

If you only want recent information, MAGS is the best place to begin –- and may give you all the information that you need. If you want background information or you are covering a topic or subject that dates prior to 1992, you will want to search both MAGS and MAGSB.

Magazine Index Plus is owned by the Information Access Company, a major database producer in the library and information marketplace. This database is one which the University negotiated a contract for with the participation of the various MINITEX libraries in this region. It provides access to general magazine and trade literature as well as to a wide variety of journals and technical publications. It is best used when you need general information, background information for analysis of impact or trends or other general purposes.

If you need 'hard core' business, engineering or other information, you will also want to check other, more specialized databases that we offer through LUMINA.

Basic Searching Options

You can search the database much like you do when using the MNCAT database in LUMINA for cataloging information from the University Libraries. Each screen highlights the options or function keys that are currently being used. To display a selected citation, simply press the <ENTER> key.

Magazine Index Plus offers two basic ways to search the database: Subject Guide and Key Word. *Subject Guide* allows you to browse listings of subjects, personal names, or companies that include the word(s) you type, e.g, rap music, censorship or Boris Yeltsin. *Key Word Search* allows you to search for article ref-

Table 1: Multidisciplinary Databases

```
ACAD _____    Academic Index (journals and magazines, some full-text), 1980-date
CCON_____     Current Contents (contents and abstracts of current scholarly journals)
DSA _____   Dissertation Abstracts (North American doctoral theses), 1861-date
GPI _____   Government Periodicals Index (175 federal govt. journals), 1993-date
IIN _____  Inside Information (contents information for 10,000 current journals)
LEGI _____   LEGI-SLATE (federal legislation and regulations)
MAGS _____    Magazine Index Plus (popular magazines, some full text), 1980-date
NEWAB____     Newspaper Abstracts (25 national and regional newspapers), 1989-date
NEWDT __      News index from Datatimes (select coverage of 90 newspapers), last 2+ years
```

erences by combining words or phrases from titles, authors or subjects, e.g., family values AND Dan Quayle.

Figure 1 gives you some basic information on your search options for this database.

Searching by Keyword

Let's get to something really important – tuition. This is such a huge topic, let's limit our search to keywords with both tuition and college. Using the keyword option we retrieve a listing of brief citations. Using this we can choose one of the citations to look at and will get a

citation and abstract. Figure 1 lists one of the items from the database.

Magazine Index Plus is an excellent database for general research, that short research paper, or to use like an encyclopedia to search for detailed information on some popular topic or research term.

Figure 1: Sample Record in Magazine Index Plus

```
  Key Words: tuition and college
.........................................................................

Source:    MacUser. Sept, 1996; v12: n9, p24(1)
Title:     U.S. News: Getting into College.
           (Creative Multimedia disc with college information)
Author:    Bickford-Carolyn
IS ISSN: 0884-0997
PY PUBLICATION YEAR: 1996
DT DOCUMENT TYPE: Brief-Article; Product-Announcement
SC SIC CODE: 7372 Prepackaged-software
CO COMPANY NAME/ORGANIZATION: Creative-Multimedia-Corp -Product-introduction
PN PRODUCT NAME: U.S.-News-Getting-Into-College-Educational-training-software
   -Product-introduction
DE DESCRIPTORS: Educational-software-Product-introduction; Computer-software
   -industry-Product-introduction
LP LEAD PARAGRAPH: U.S. News: Getting into College. Take a quiz or sort
   through thorough data about admissions requirements, tuition, location, and
   student activities to find the right U.S. undergraduate institution.
   $29.95. Creative Multimedia: 800-262-7668 or 503-241-4351;
   http://www.creativemm.com/.
COPYRIGHT Ziff-Davis Publishing Company 1996
AN ACCESSION NUMBER: 18500576
UD UPDATE DATE: 9607
.........................................................................
 Display      Narrow      Explore | F4 Brief citation display     B  Backfile
                                  |  +  Next              F12 Page Down
 Display brief citations          | F1 Help   F2 Start Over           N/A Mark
```

Figure 2: Some Tips for Searching Magazine Index Plus

```
  To return to previous line or select previous citation            {F7}
  To advance to next line or select next citation                   {F8}
  To return to previous page in a citation list or text            {F11}
  To advance to next page in a citation list or text               {F12}
  To choose the previous option from the bottom left of the screen   {F5}
  To choose the next option from the bottom left of the screen       {F6}
  To access help while using InfoTrac                              {hlp}


  Enter XQ to return to main LUMINA menu
  Enter BQ to return to ACADEMIC menu
  Enter BAC to return to MULTIDISCIPLINARY DATABASES menu
```

Also Check out Newspapers

Covering over 25 national and regional newspapers – including the New York Times, Boston Globe, USA Today, San Francisco Chronicle, Wall Street Journal – the database indexes 'significant' items, including news articles, reviews, editorials, commentaries, etc. Each record also includes a 15-40 word abstract. The database goes back to 1989 and is updated each week.

A list of some basic search options is given in Figure 3. A sample record is included in Figure 4.

Searching the "STRIB"

If you want to get local coverage of some event, information on some regional activities or people, be sure to check out the *NEWDT* which includes the Minneapolis *Star Tribune*. This database covers 136 newspapers, including 92 regional papers and another 34 from financial sources or important regional press from outside the U.S. Coverage began with February 1996 and the vendor hopes to have full-text available online soon. By typing in su:belton and minneapolis I received 44 records from the *StarTribune* covering local politics and crime issues. This database also uses the FirstSearch search methods, described in Figure 3.

Don't Stop Here

Be sure to check *MNCAT* in LUMINA to see if the publications cited in this or other databases are owned by the Libraries. If so, you can stop in yourself or order copies to be made for you and delivered to your office address from LUMINA to U; call 626-2260 for more information.

If we don't own something, we can get it for you through our Interlibrary Loan services (check with any campus library for details).

LUMINA also includes many other very important research databases covering virtually any topic you may wish to explore. Take a few minutes to look through the LUMINA menus. I think you'll be surprised at the variety and depth of resources that the Libraries have brought to your office or home! Don't forget the Libraries' on-site resources. We have CD-ROM databases and other critical information available throughout campus to help you with your research. Check them out! ▬

Figure 3: Some Tips for Searching Newspaper Abstracts and Datatimes

```
su:tuition          subject search
au:hasselmo nils    author search
ti:Clinton Wins Big title (of article) search
ab:tuition          searching the text of the abstract
de:college          searching the assigned subject headings or descriptors
gn:minnesota        searching for specific geographic areas
na:princess diana   searching for specific named people in the abstracts or titles
pn:coke             searching for specific product names
```

Figure 4: Sample Record From Datatimes

```
DATATIMES NO:  MSP782416
     SECTION:  NEWS
      AUTHOR:  Steve Brandt; Staff Writer
       TITLE:  Minneapolis Park Board upholds volleyball plan
        DATE:  19960926
      SOURCE:  Star-Tribune  Newspaper of the Twin Cities  Mpls.-St. Paul;
               02B, METRO,   (Copyright 1996)
 SOURCE CODE:  MSTN
 DESCRIPTORS:  minneapolis; park; sport;
    ABSTRACT:  By a one-vote margin, the Minneapolis Park and Recreation
               Board on Wednesday refused requests from Mayor Sharon Sayles
               Belton and a neighborhood association to reconsider an
               agreement permitting volleyball and broomball leagues at
               Wirth Park beach.
                    The creation of courts at the beach has aroused
               opposition from the Bryn Mawr neighborhood.  The neighborhood
               association board has unanimously expressed its concerns
               about potential parking, noise and behavior issues.
```

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