

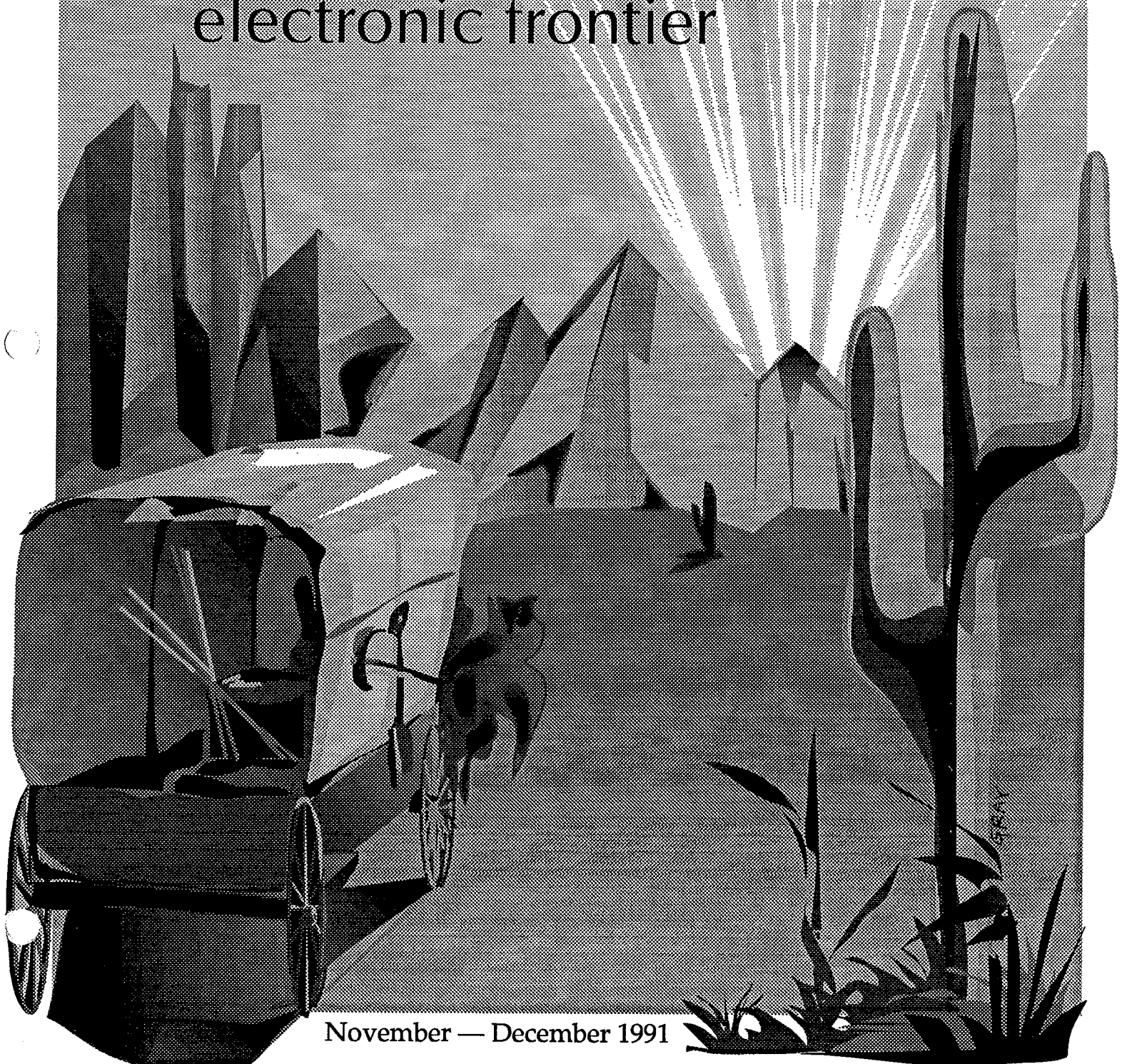


UNIVERSITY COMPUTING

# T I M E S

INDIANA • UNIVERSITY

Mining the  
electronic frontier



November — December 1991

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University Computing

**T I M E S**

November—December 1991

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*Jan Holloway*

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## More math software; better support

Craig Stewart

The UCS Stat/Math Office is taking a simple approach to supporting math/stat software by concentrating efforts on providing excellent support, on several machines, for the "core" software in greatest demand at IU. In the last issue of the *Times* the Stat/Math Office detailed its strategy for supporting statistical software (see "Big improvements in statistical software support," *University Computing Times*, September-October 1991). In this issue we describe our support strategy for mathematical software. We'll talk about support for subroutine libraries, decision support software, and simulation packages in future *Times* articles.

We have made major changes in the availability of and support for mathematical software on UCS timesharing computers. We have also added to the Stat/Math Office staff a full-time mathematical software consultant. As in the case of statistical computing, we are using a support plan developed with the assistance of the ACPC Stat/Math subcommittee, that categorizes software into one of three support levels:

- **Standard tools:** Software in wide use at IU, well supported by UCS. (The subgroup Standard Tools with Comprehensive Support receives especially broad support.)

- **Special-request tools:** Software used by a specialized subgroup of the IU community, for which UCS provides limited support
- **Software library tools:** Software being phased out.

The table below shows current support levels for mathematical software.

Changes in the mathematical software UCS makes available and in support levels are being driven by the desires of the IU computing community, and by the ACPC recommendation that UCS enhance the UNIX computing environment on campus. (For UCS central computers, we use Digital's Ultrix operating system, a vendor-supported version of UNIX.) The two mathematical software packages catalogued as Standard Tools with Comprehensive Support are Mathematica and Maple. Within the last year Mathematica was installed on the Bronze DECsystem and Maple was installed on Bronze and the Silver VAX. Mathematica is also available in the NeXT cluster in Student Building 231. We encourage instructional use of Mathematica on NeXTs, and instructional use of Maple on Silver. We also encourage migrating research use of mathematical computing to Bronze. Macsyma, supported as a Standard Tool, has been installed on that machine. Interest in

Environment	Mainframes		UNIX-based Workstations		Microcomputers
	VAXcluster VMS	ULTRIX	SUN	NeXT	Macintosh
Standard Tools		Mathematica* Maple* Macsyma		Mathematica*	
Special-request Tools	Matlib Mathlib		Mathematica		Mathematica Maple
Software library tools (and their scheduled removal dates)	Maple (1-6-92) Macsyma (2-15-92) Speakeasy (12-31-91)				

\*Standard tools with comprehensive support.

Macysma at IU seems to be limited to research applications; its availability on Bronze seems sufficient to meet that need.

In adding mathematical software to Bronze and Silver, UCS is both increasing services offered under Ultrix and is recognizing that these packages function best in an Ultrix environment. Because of budget constraints, however, UCS cannot support these packages under both VMS and Ultrix. Consequently, Macysma will be removed from the VAXcluster on 15 February 1992, and Maple will be removed on 1 June 1992. To help you make the transition, UCS will offer a class for researchers in converting from VMS Macysma to Ultrix Macysma. To help move the instructional use of Maple from VMS to Ultrix, UCS is developing a migration plan for both faculty and students.

If you use Maple in a class or have plans to do so, please send e-mail to STATMATH. Successfully migrating the instructional use of Maple from the VMS environment to UNIX will pose a challenge for all. We ask Maple users to let us know at the Stat/Math Office what we can do to make the process more manageable.

UCS is also looking into the issues involved in supporting Macintosh- and DOS-based mathematical software.

### Future plans

UCS future plans include expanding support for mathematical software on UNIX-based workstations. Also under consideration is making Mathematica more widely available on Ultrix VAXes. Though Mathematica on the NeXT platform is well suited to instructional use, UCS recognizes that instructional demand for Mathematica may grow more quickly than the number of publicly available NeXT machines. For that reason, UCS is thinking of acquiring Mathematica for one of the instructional-use Ultrix VAXes.

### Let us know . . .

We are in the midst of a period of great change in the mathematical software environment at IU. Let us know what you want and we will try to accommodate your requests. □

## Software news

John Samuel and Craig Stewart

### More stat/math documentation

UCS has added considerably to the stat/math documentation available at the Computing Support Center (IMU 061) and the Swain Hall Library. Documentation at the CSC may be used only at the CSC, but documentation at the Swain Hall Library may be checked out for up to three days.

In addition, basic documentation for the stat/math "standard tools" has been added to several UCS public computing facilities. These documents may be borrowed from the consultant on duty and used at the site. This documentation is now available in Ballantine 115 and 307, Business 101 and 417, HPER 154, IMU 056, Jordan Hall 224, Main Library 102A, SPEA 151, Speech and Hearing C144, and Woodburn Hall 211. Please let us know how we can better meet your needs for stat/math documentation by sending e-mail to STATMATH.

### NAG to be installed on Bronze

The NAG subroutine libraries will be removed from the IUBVM system and installed on the Bronze DECsystem on 1 December 1991. This change will help round out the array of mathematical software and subroutine libraries available on Bronze, which now include Mathematica, Maple, MACSYMA, and the IMSL subroutine libraries.

### NAG online Information Supplement on the VAXcluster

The NAG (Numerical Algorithms Group) online Information Supplement is now available on the VAXcluster. This is an online source of information that complements the published *Fortran Library Manual*, but does not replace it. Its help features include:

- Summary of the contents of Mark 14 of the Fortran Library
- Advice on the choice of routines in a given subject area
- Explanations of terms used in some subject areas

- Specification of use of any user-callable routine that you can select by section heading, parameter name or number, error message, or a mixture of these.

To access NAG online help, type: NAGHELP at the VMS \$ prompt. For help on a specific topic, type: NAGHELP topic (supply the topic you want). To access the VMS-style help library, type: NAGVMSHELP at the VMS prompt. A complete set of NAG documentation is available for reference at the Computing Support Center. Documents may be also ordered through the IU Bookstore or from NAG Inc., 1400 Opus Place, Suite 200, Downers Grove, IL 60515 (708/971-2337).

## MATHLIB upgraded on the VAXcluster

MATHLIB 11.3 has been upgraded to Mathlib 11.4 on the VAXcluster. The upgrade corrects a number of bugs from the previous version and adds some new features and programs.

To access MATHLIB, at the VMS prompt, type MATHLIB. To exit the session, at the MATHLIB prompt, type EXIT. For information on MATHLIB, type HELP at the MATHLIB prompt. To access the extensive online help facility type: HELP@MATHLIB at the VMS prompt. To get help with a particular element of a command during a MATHLIB session, type ? (question mark).

A directory, MATHLIB\_SAMPLES, has been set up with a number of sample MATHLIB files. To view the filenames, at the VMS prompt, type DIR MATHLIB\_SAMPLES. You may view the files or copy them into your directory. This directory also contains two files, BUGS.TXT and FEATURES.TXT, with information on the errors MATHLIB 11.4 corrects and on its new features.

A complete set of MATHLIB documentation is available for reference at the Computing Support Center, including the *MATHLIB Reference Manual*, *MATHLIB User's Guide*, and *MATHLIB Example Set*. Documents may be purchased through the IU Bookstore or from Innersoft International Inc., 250 West First St., Suite 240, Claremont, CA 91711 (714/624-7907).

## IFPS to be removed

IFPS (Interactive Financial Planning System) will be removed from the VMS VAXes when its current license expires in July '92. This change, approved by the ACPC Stats/Math Subcommittee, recognizes the combined high cost and very low usage of this package. If you have any concerns about the removal of IFPS, please send e-mail to STATMATH. □

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