Caltech Procures Mathematica Site License

Caltech has recently completed a site license agreement with Wolfram Research Inc. for Mathematica.

Restrictions to the Site License

The site license covers only computers owned by Caltech. Furthermore, the license covers only those computers used in education. Computers that are used for both education and research still qualify, but must be used “primarily for education”.

See Mathematica, page 2
**Mathematica** continues from page 1

Those wanting Mathematica for computers that do not fall under the above categories may still purchase the program from the CCO front desk at our normal educational discount.

**Platforms**

The current version of Mathematica is 2.2.3. Our site license covers versions for the Macintosh, Microsoft Windows, Sun SPARCstation (including Solaris 2.x), DEC (both OpenVMS and OSF/1), IBM RS/6000, Silicon Graphics, Hewlett-Packard, and NeXT.

**How to Get It**

The Macintosh and Windows version of Mathematica are now available from the CCO front desk (158 Jorgensen). Users may either purchase a set of floppies ($3 per disk, total 5 disks) or may chose to borrow and bring back the disks for no cost (a refundable deposit is required).

All other versions are distributed via CD-ROM. These CDs are available for check-out (again a refundable deposit is required) from the front desk. CCO also offers a loaner a CD-ROM player for those without one.

**Support Information**

Mathematica handles numerical, symbolic, and graphical computations, and has a built-in programming language. Mathematica also provides a “notebook” interface that allows one to create interactive documents that mix text and animated graphics with active formulas. An extensive Mathematica textbook is available from the Caltech bookstore.

The CCO offers free training on the Mathematica package. Our next course will be offered Winter term. To register for the class send a request to class_signup@cco.caltech.edu or call Betty McKenney at Ext. 4885.

**Site Licensed Software**

**Mathematica** continues from page 1

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**Editorial Staff**

Associate Editor: Rich Fagen
Technical Editor: Betty McKenney
Design Editor: Wayne Waller
Staff writers/editors/contributors this issue:

Tom Boyce
Jim Bys

**Calendar of Events**

Waterloo Maple Software Training ................................. Feb. 13, 1995
One Day Seminar, four 90 min. sessions ......................... Robert Lopez
Topics include using Maple in Applied Math, in Differential Equations, in Linear Algebra and future trends in Mathematics Education.
UNIX Introduction ............................................................... Jan. 17
Advanced UNIX ............................................................... April 4
Tuesdays and Thursdays 4:00 PM to 6:00 PM ............. David Smallberg

Macintosh Classes: 9:30AM to noon in 170 Jorgensen
Intro to the Mac ........................................... Jan. 17, 18 and 19
Intro to WORD ............................................. Jan. 24, 25 and 26
Intro to EXCEL .......................................... Jan. 31, Feb. 1 and 2
Intro to FileMaker Pro ......................... Feb. 7, 8 and 9
Intro to PageMaker .................................. Feb. 14, 15 and 16
Advanced WORD .................. March 7, 8 and 9
Advanced EXCEL ....................... March 14, 16 and 17
Advanced FileMaker Pro ........ March 21, 22 and 23
Advanced PageMaker ................ March 28, 29 and 30

Starting January 11 on Wednesday afternoons, CCO and the Library present World Wide Web Browsing courses , 1:30 - 4:30 PM in the Macintosh Training Room.

To register or get notice of classes offered by CCO please send e-mail to class_signup@cco.caltech.edu or call Betty McKenney, ext. 4885.
Wolfram Research Inc. also has a home page on the World Wide Web: http://www.wri.com/. Included are sample graphics, sounds, and animations, and "MathSource", a resource that contains a collection of Mathematica packages, notebooks, examples, and programs.

There is also a local Usenet newsgroup, caltech.cco.math-packages for posting questions and answers about the use of Mathematica and other math software packages.

http://www.wri.com

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Maple Update

Caltech also has a site license for the Mathematica's main competitor, Maple. Maple is now available from the CCO Front Desk for the cost of the media. Maple is available on the same platforms as Mathematica.

What's New on Caltech's World Wide Web Service

- The Schedule of Caltech Classes from the Registrar's office is now available via the World Wide Web. The URL is http://www.caltech.edu/cgi-bin/schedquery.

  This will be updated periodically over the term.

  You can search by Department, Instructor, or key word in the course title.

- The Caltech Development Office now has a home page. The URL is http://www.caltech.edu/~development/CalDev.html

  We now provide a link to "Suggested Starting Points for Internet Exploration" on the Caltech and CCO home pages. There are two major categories available, Lists and Searches. This link is helpful for those who want to start exploring Internet and the World Wide Web outside of Caltech, but don’t know where to get started.

For help with getting connected to network, or getting started with the World Wide Web, contact the CCO consultants at extension 4602.

The CCO also provides training on the World Wide Web, using various Web "browsers". To register for the class send a request to class_signup@cco.caltech.edu or call Betty Mckenney at Ext. 4885.

Course Schedule First Term 1994-95

Note: this information may not be completely up-to-date. If you have any questions about this information, please contact the Registrar's Office. Also, this interface may change at any time, give any suggestions to www@caltech.edu.

Look at the whole list

Look for a specific department

Search for a keyword in titles

W orld W ide W eb window for searching courses offered by department, key words or instructor.
This fall the Campus Computing Organization has dedicated some of its lab facilities to demonstrate current technology available in computerized presentation equipment. One of our Mac Labs has been converted to a training and demonstration facility to benefit the entire campus. Our Media Integration Lab has been expanded (equipment and staff wise) to aid in the creation of computer-generated media for classroom and public presentations and publications.

Facilities include:

The Media Integration Lab provides specialized tools and equipment for working with digital media and for producing multimedia products and presentations. Please see the Fall '94 Caltech Computing Newsletter for additional description and details. Past lab-produced projects have ranged from the creation of computer-generated media for Watson Lectures to the videotape recording of visualizations and simulations for use at conferences to the development of computer-based teaching materials to the enhancement and preparation of digital images for publication. For more information, please contact Wayne Waller at extension 3278 or e-mail wallerw@starbase1.caltech.edu. The media integration lab is located in Room 170-A Jorgensen.

The Macintosh Training Facility is available for use by organizations and departments. The room is equipped with one PowerMac 7100 with CD player, 24MB of RAM, and 250MB of hard disk space for the instructor and 12 Macintosh IIci student stations. Each of the student stations has an external pocket drive with 80 MB of hard disk space in addition to the 40/80 MB internal drive. Projection facilities include a high-intensity overhead projector, a color nView LCD projection panel, QuickTime movie-playback capability, external speakers, and network access from each machine via ethernet. This room is ideal for any hands-on training including Web browsing programs such as Mosaic and Netscape. The facility is located in room 170 Jorgensen.

The Video Training Library consists of almost a hundred two-hour self-instructional videotapes and two dedicated Macintosh training stations, each connected to a TV/VCR unit and providing self-paced interactive learning. The library of videotapes is from Mac Academy and covers leading software packages such as Photoshop, PageMaker, Word, Excel, and FileMaker Pro. A complete list of videos can be obtained at the front desk in Jorgensen. These training stations are located in the Mac Lab, room 154 Jorgensen. Reservations can be made in order to ensure a time convenient to the user. Please call extension 4612 for more information or for reservations.

Our Mac, Sun, Intel and NeXT Labs are open 24 hours a day, seven days a week to the campus community. Black and white and color printers and scanners are located in labs too. To have access after hours, bring your Caltech ID to 158 Jorgensen and obtain a key authorization form.

The Library Resource Services Group has already taken advantage of this new facility to train their staff and users of their services. To reserve the Macintosh Training Facility for meetings, demonstrations, presentations, or workshops, please contact Betty McKenney at extension 4885 or e-mail McKenneyB@starbase1.caltech.edu.

Please see the World Wide Web, CCO Home Page, “courses” for schedule of CCO classes.
CCO Labs

New MacLab

The MacLab in Jorgenson 154 has had a substantial reorganization. The lab now has 17 mcs in the following models: 11 PowerMac 7100/66s, 3 PowerMac 6100/60s, 1 PowerMac 8100/80, 1 Performa 475, and 1 IIfx. All systems are running Apple’s new system 7.5, although not all of the extras have been installed (e.g., QuickDrawGX or PowerTalk). The PowerMacs have 250Mb harddisks, and will have 16Mb of RAM. One of the 7100s is connected to a color scanner and will have 32MB of RAM installed. Most of the new PowerMacs also have Apple’s new 15 inch color monitor which gives up to 832x624 resolution.

We now have Mathematica installed on all the PowerMacs in this lab.

Other News about the MacLab

Recently CCO changed the name of its localtalk connection from “MacLab” to “CCO Localtalk”. All of CCO’s MacLab computers and printers have been on ethernet for some time and are in the zone CiscoCCO. Because of this, the old MacLab zone was no longer being used by the MacLab, thus creating some confusion.

During the Christmas Holidays, CCO will be reorganizing the MacLab File Server to reflect some new applications that we will be supporting and some other applications for which we will discontinue support. Here are some of new main applications we will be supporting for use in the Labs: Microsoft Word v6.0, Excel v5.0, Powerpoint v4.0, KaleidaGraph 3.0 (a data plotting and analysis package), and Canvas 3.5 (a drawing package). Some of the older applications we will eventually discontinue support for are Cricket Graph and Igor, MacDraw and MacDraw Pro, and Claris Cad.

Tom Boyce, Mac Consultant
**SL/IP and PPP Service:**

A new 20 line Centrex phone hunt group has been installed for use with CCO’s SL/IP (serial line/internet protocol) and PPP (point-to-point protocol) service. The first number of this hunt group is

397-4632

An announcement will be E-mailed to all SL/IP and PPP users before a switchover to the new number will be required. Until the switchover date, users should continue to use the old phone numbers.

When the switchover occurs, 16 modems will be available with 4 additional modems to be made available shortly thereafter.

A newer version of the Livingston Portmaster (PM-2e) will help implement this service. This box will handle serial speeds up to 115.2 Kbps which will be useful as conversion to V.34 modems proceeds.

This box should also be able to provide IPX service simultaneously. Livingston provides Telepath client software, which, in conjunction with something like FTP’s PC/TCP software will provide a complete connectivity solution for IPX users.

Down the road, users will be able to use their CCO Unix cluster username and password to access this service. This will, among other things, enable the user to change their PPP (and Unix cluster) password.

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**SL/IP and PPP Hints:**

*Do you really need SL/IP or PPP?*

The basic answer is that if you want to run a service whose only support is through TCP/IP then you will need to get a SL/IP or PPP account.

Such services currently include:

- Most WWW browsers: Mosaic and Netscape included
- Some Newsreaders like Macintosh NewsWatcher
- Some Mailers like TCP/IP based Eudora.
- X-Windows.

There are alternative services in each of the above categories that work entirely over a serial connection and do not need SL/IP or PPP.

If your major use is to connect to remote machines, with an occasional file transfer, you will not need a SL/IP or PPP account.

*Are you using a WWW browser over a SL/IP or PPP link?*

Tell your browser not to automatically download images.

*Is MacTCP having trouble resolving your names from time to time?*

The correct way to set up MacTCP to do domain name resolution is something like the following:

```
131.215.139.100 is chosen as the example primary nameserver here. Be sure to put a literal “.” at the beginning of each succeeding Name server information line. Some choices for the secondary and tertiary name server are:

131.215.145.137 or 131.215.9.49
```

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**“Generic” High Speed Terminal Service:**

All the equipment has arrived to replace CCO’s remaining low speed modems. All modems in CCO’s pools will now be Telebit T-3000’s.

Phone numbers of this service will not change. After the rewiring, the one phone number

405-0161

will be used to reach the entire CCO Xyplex terminal server hunt group.

**High Speed Modem Hints:**

*Sometimes the CCO modem line does not answer or the terminal server does not respond.*

If a modem or terminal server fails you can bypass it by dialing a number higher in the hunt group. Some other numbers are:

```
Dial-In continues, page 7
```
**Network Services**

- 405-0242
- 578-7224  578-7541
- 792-0279  792-4617

*Note that these numbers are subject to change.

**Do you have a high speed modem and from time to time garbage characters appear on the screen?**

The most common solution to this problem is to turn on your modem’s error correction facilities.

There is no standard for the string that will turn this on. Global Village modems seem to be particularly susceptible to this problem. The string AT&F1

on newer Gold modems will turn on all settings necessary for high speed communication including appropriate error correction.

**Are you experiencing high latency (takes characters a long time to echo) when using any of the high speed modem services?**

Try turning off data compression in your modem.

This will reduce the latency. The cost you pay is that compressible text will only be transmitted at the maximum carrier speed (usually 14400 bps).

**ARA Service:**

A four line Centrex hunt group has been ordered to replace the current ARA service. An Apple ARA Multiport Server v2.0.1 has been installed. ARA 2.0.1 should talk with both older 1.0 clients and with newer 2.0.x clients.

One of the current lines is using the Multiport server. When the new Centrex lines arrive, the number to call for the ARA service will change.

Depending on the interest, the Multiport server can be increased up to 16 ports in groups of 4.

**ARA Hints:**

Do you use TCP/IP services over the ARA link?

If they seem too slow, sign up for a PPP account.

**ISDN Service:**

There are now 4 Combinet ISDN-to-Ethernet routers in CCO’s ISDN pool. The phone numbers for the ISDN lines act like a hunt group in most ways. Current users need to have their Combinet dial

666-1170 which will connect one B channel to the first free line. The user will then have to dial the associated second number by hand to bring up both B channels.

1st B Channel | 2nd B Channel
---|---
666-1170 | 666-1171
666-1172 | 666-1173
666-1174 | 666-1175
666-1330 | 666-1331

**ISDN Hints:**

Are you using ISDN with Combinet boxes and some Macintosh variant?

To do Combinet configuration the Combinet serial port needs to be connected with a NON high speed modem cable to the Macintosh.

Is your ISDN line part of Caltech’s Centrex?

You should dial only the last 4 digits of ISDN pool number (1170). If you dial the entire number PacBell may think you are making an outside call and charge you for it.

**Other Info:**

For SL/IP or PPP help or to get an account send e-mail to
ppp@cco.caltech.edu.

To report terminal problems, send e-mail to
modems@cco.caltech.edu

For more information and discussion about these topics, read the
[caltech.cco.dialup](mailto:caltech.cco.dialup) newsgroup.

- Jim Bys

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**The End of an Era**

CITnet’s old backbone, the broadband head-end, being turned off by Bob Logan and Dallas Oiler.
CCO Goes Mobile!!

In order to provide an increased level of service to the Caltech community, the CCO has acquired an electric delivery vehicle. This latest addition to the CCO’s arsenal will be used to provide free delivery of new computers to locations at Caltech. Free delivery service will be provided upon request by the purchaser of new computer equipment from the CCO.

This new vehicle will also be used to pick up and return equipment that needs the services of the CCO Computer Repair department when requested by the customer. For obvious reasons we must restrict this delivery service to equipment located, or to be located, on the campus, and the equipment must be Institute owned.

The new vehicle is fully enclosed to protect the customer’s computer equipment from theft and inclement weather.

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The Editor, CCO, Caltech Mail Stop 158-79 Pasadena, CA 91125

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Glen W yne speeds up computer delivery service with the new CCO mobile.