The applications that can be launched from the Unix Application Menu, the Windows Novell Application Launcher (NAL), and the Linux Realm Kit Application Launcher (RKAL) are briefly described in this chapter. These menus change as software is acquired or eliminated, so users may see some differences in what is displayed on their screens and what is described in this manual. Platforms, versions, descriptions, instructions for use, and documentation are also provided in Appendix C and at http://www.eos.ncsu.edu/software/.

**Solaris (Unix) Application Menu**

On Solaris, the applications most often requested by users can be brought up from the Application Menu (hold down the second mouse button in the gray “root” background to bring it up). The rest must be brought up from the command line. Type `add` at the prompt for a list of applications and launch instructions.

**Note:** If the following software runs on Eos/Unity platforms other than Solaris, those have been added in parentheses. Many of the applications are large and take some time to launch, so don’t keep executing them thinking that the launch has not worked. This will only cause multiple copies to launch causing delay and problems.

**New Terminal Window (xterm)**

The terminal window, or Xterm, is a terminal emulator program for the X Window System. A user can have many Xterms running at once on the same display, each of which provides independent input and output for the process running in it (normally a shell). It provides DEC VT102 terminal emulation for programs that cannot use the X Window system directly, and permits cutting and pasting to other windows. (Linux)

**E-Mail (webmail.ncsu.edu)**

Web Mail (webmail.ncsu.edu) is the principal electronic mail program on the system. It uses IMAP (or Internet Message Access Protocol), which stores email messages on university IMAP servers so that they can be accessed from any Web browser or compatible mail client on the Web. IMAP accounts are 30MB of file space for message storage, which is in addition to the user’s Eos/Unity 50MB quota. (Linux, Windows, and any Web browser anywhere. Requires login to Web page.)
Netscape Web Browser (netscape)

The World Wide Web is a distributed client-server information retrieval system. It organizes information on the Internet and links it together as hypertext documents (see World Wide Web). Netscape is a popular Web browser and the default browser on the Eos/Unity system. (Linux, Windows)

Print Manager (nxpr)

The nxpr Network X Print Manager (authored by former NCSU student, Lance Lovette) is designed to help users manage and conserve their printing. It allows the user to print 2-4 pages per sheet of paper and keeps track of the user’s print quota (see Printing). (Linux)

Eos/Unity Policies (policy)

Selecting this item will launch a Netscape browser (it may take a little time to load). It will open at pages describing the university’s policies on computer use. Users are responsible for following the policies and practices that have been put in place to protect people, equipment, and the university. These policies have been included in this manual (Computer Use Policies), but the Web pages hold the most current information and should be consulted as the best reference for these guidelines.

Help (help)

Typing help on the command line launches a Netscape browser to the Web address, http://help.ncsu.edu/. The FAQ or Help Database is the first resource you should try if you have a question or problem. It was created from the information gathered from Remedy, the problem-tracking software used at NCSU. Enter your question in the field provided and select the Get Answers button. If the question has been asked/answered before, generally on help@ncsu.edu, then it will probably be in the database. (see Help).

NCSU Libraries

Selecting this item (or type library in an Xterm) will launch Netscape and take you to the NCSU Libraries home page, http://www.lib.ncsu.edu. This page has links to online catalogs, indexes, databases, and the Triangle Research Libraries Network (TRLN) collections at Duke, NCSU, and UNC-CH.

Word Processing

There are three powerful word processing/publishing packages on Unix. Corel WordPerfect is the easiest to use and a full-function word processor (only on Solaris, see WordPerfect). Adobe FrameMaker is a comprehensive package for publishing long works in print or on the

Word Processing

WordPerfect
FrameMaker
Interleaf, which has been on the system for more than 10 years, is no longer being sold or supported. Users are urged to move to FrameMaker, which has been upgraded to 7.0 on both Solaris and Windows.

Web. It offers book-building capability and supports exporting to HTML, XML, and PDF. FrameMaker is also available on the Windows platform in Eos labs.

StarOffice is available on Sun, Linux, and Windows workstations and can be launched from the command line (add staroffice).

Editors

NEdit is the easiest editor on Eos/Unity for writing text and programs. Visual SlickEdit is a more complex editor, designed principally for writing computer programs, and is one of the most powerful and highly rated programming editors on the market. asWedit is an HTML editor designed for creating files in HyperText Markup Language (see Text Editors). (All on Linux; only Visual SlickEdit on Windows)

Math and Statistics

Math and Statistics branches to a submenu listing several popular applications in math and statistics.

- **NExS Scientific and Engineering Spreadsheet**
  The Network Extensible Spreadsheet is an interactive spreadsheet designed specifically for the X Windows environment. It is similar to Microsoft Excel and is capable of monitoring several X applications at once and updating the relevant mathematical, matrix, string and statistical data from each (as well as any resulting calculations). It supports matrix, vector, and fourier transformation operations, as well as the arithmetic, Boolean, and logic functions available in the C programming language. (Linux)

- **Maple Numeric and Symbolic Computation**
  Maple Maple is a comprehensive computer system for advanced mathematics. It includes facilities for interactive algebra, calculus, discrete mathematics, graphics, numerical computation and many other areas of mathematics. It also provides a unique environment for rapid development of mathematical programs using its vast library of built-in functions and operations. Maple includes palettes, context-sensitive menus, and the input mode, Standard Math notation, that allow entry and manipulation of mathematical expressions without detailed knowledge of Maple syntax. (Linux, Windows)

- **MATLAB Computation and Visualization**
  The MATLAB numerical matrix manipulation package is a technical computing environment for numeric computation and visualization. The name “MATLAB” stands for matrix laboratory. As a high-performance language for technical
computing, MATLAB integrates computation, visualization, and programming in an easy-to-use environment where problems and solutions are expressed in familiar mathematical notation. MATLAB is an interactive system whose basic data element is an array that does not require dimensioning. This allows users to solve many technical computing problems, especially those with matrix and vector formulations, in a fraction of the time it would take to write a program in a scalar noninteractive language such as C or Fortran. MATLAB includes the Simulink extension and many add-on “toolbox” applications. (Linux, Windows)

- **SAS Applications System**
  SAS is an integrated applications system for data processing, statistics and analysis. It is a powerful programming language and a collection of ready-to-use programs called *procedures* for accessing, managing, analyzing, and presenting data. SAS programs may be used in operations research (models of distribution networks, resource allocation problems, scheduling, production systems), report writing and graphics, business forecasting and decision support, project management, and applications development. (Windows)

**CAD and Plotting**

A few of the several computer-aided design (CAD) and plotting tools on Eos/Unity are available on the Application Menu.

- **CADRA** The CADRA family of CAD/CAM products includes CADRA Design Drafting, a fast and highly productive mechanical design documentation tool; CADRA NC, a comprehensive 2 through 5 axis numerical-control programming application; and CADRA integration with SolidWorks, an integrated drawing production system and a 3D solid modeler. (SolidWorks is on the Eos/Unity system on the Windows platform.) (Windows)

- **Pro/ENGINEER** is a powerful tool for engineering design and an industry leader among CAD programs. Its parametric solid-modeling methodologies capture design intent and support feature-based modeling of parts and the subsequent combination of parts in assembly. Its fully associative architecture delivers a comprehensive suite of solutions for the development process, from a product’s conceptual design and simulation through manufacturing. (Windows)

- **Tecplot Interactive Plotting** is versatile and powerful interactive plotting software with extensive 2-D and 3-D capabilities for visualizing data from analyses, simulations, and experiments. With Tecplot, you can create XY plots,
contour plots, vector plots, mesh plots, carpet plots, 3D stream ribbons, isosurfaces, light-source-shaded surfaces, etc. You can also visualize complex data defined in one, two, or three dimensions, or on its original non-rectangular grid (e.g., multi-block, curvilinear, triangular, quadrilateral, 8-node bricks, and tetrahedral), preserving its original variation of grid resolution and retaining exact grid boundaries. (Windows)

Graphics
The three graphics programs available from this menu are **gimp**, **xpaint** and **xv**. **The Gimp** is a popular freeware package that has excellent capability and is comparable to Photoshop. **xpaint** is a color image editing tool which features most standard paint program options. **xv** is an interactive image manipulation program for the X Window System. Be aware that sophisticated graphics capability are also available in the commercial word processing and publishing packages listed above, as well as in the CAD software. (All on Linux)

Miscellaneous
The Miscellaneous category includes programs that are useful desktop tools to have available while you work. The first three—Calculator, Clock, and Rolodex—are self-explanatory. **XTRACS** is a course-scheduling program, written by former student Lance Lovette, that downloads TRACS listings nightly and allows students to arrange and graph their class schedules (see **XTRACS**).

Additional Unix Applications on the “Add” List
For additional applications on the Solaris platform, type **add** in the Xterm window at the prompt. You will see a screen like the one below and must press the spacebar several times to see the whole list. You cannot scroll back up the list and so must press **q** to stop and repeat the command to view the list again (application versions below are not current for 2003).
Novell Application Launcher

On Windows, the most-used applications reside in the Novell Application Launcher, called the NAL (see below).

The applications displayed here are from the spring 2002 NAL, so the applications could change in the 2002-03 year.
The rest are launched from the **Start** menu. Programs that users add themselves are appended under Windows Explorer. There are also useful applications under **Accessories**.

**Microsoft Office XP Applications**

The popular Microsoft Office applications are in the NAL in the **Office Applications** folder, including Word for word processing, Excel for spreadsheets, PowerPoint for presentations, and Access for database creation and management (also Photo Editor and Query).

**Other NAL Applications**

There may be more or different applications available in the NAL, but the ones available at the time of writing are listed and described briefly below. Additional Windows applications that are also available on the Sun Solaris platform are Maple, Matlab, Netscape, Pro/Engineer, SAS, and Visual SlickEdit, described earlier in this chapter.

A more complete list of software applications is in Appendix C and [http://www.eos.ncsu.edu/software](http://www.eos.ncsu.edu/software)
[http://www.ncsu.edu/it/essentials/software/](http://www.ncsu.edu/it/essentials/software/)

**Acrobat** by Adobe is used for publishing documents online in PDF format. It enables users to create and share documents across platforms while maintaining the documents’ original look and feel. Also on Solaris (add acrobat).

**ArcView** enables the user to visualize, explore, query and analyze geographic data spatially. ArcView is made by Environmental Systems Research Institute (ESRI), a leader in geographic information system (GIS) software. Also on Solaris (add arcview).

**AutoCAD** is an industry standard design and drafting package for the creation and manipulation of 2-D and 3-D line drawings and images.

**Java Development Toolkit (JDK)** contains software and tools for developers to compile, debug, and run applets and applications written in the Java programming language. Also on Solaris and Linux (add jdk).

**JMP** from SAS Institute, is a statistics analysis application that displays information in an easy-to-understand graphical environment. Data tables are presented clearly in spreadsheet form and dynamically linked to related graphics and tables. JMP offers six statistical analysis platforms, including a three-dimensional spin plot and capabilities for performing univariate statistics, analysis of variance and multiple regression, nonlinear fitting, multivariate analysis, and nonparametric tests.

**Macromedia Web Suite: Dreamweaver** is a visual editor for creating Web sites and pages. It permits site and page creation, updating, and
management through a WYSIWYG interface that supports Cascading Style Sheets, templates, layers, rollover images, ftp, etc. **Fireworks** allows you to create, edit, and animate Web graphics using a complete set of bitmap and vector tools. **Flash** is software for designing and delivering low-bandwidth animations, presentations, and Web sites.

**Norton AntiVirus** is virus detection and removal software available to NCSU faculty, staff, and students free of charge for their campus and home computers. The information and download pages are:

http://www.ncsu.edu/it/software/nav.html
http://www.ncsu.edu/it/antivirus/

**Photoshop** from Adobe Systems, Inc., is the premier and de facto standard for digital image enhancement, photo retouching, and image compositing. Photoshop allows the user to create original artwork, generate realistic or interpretive textures and backgrounds, correct color, retouch and composite scanned images, and prepare professional-quality separations and output for print or the Web. Also on Solaris but in the earlier 3.0 version (**add photoshop**).

**SolidWorks** is mechanical design automation software that allows designers to easily sketch out ideas, experiment with features and dimensions, and produce models and detailed drawings. SolidWorks is one of the industry leaders in CAD and 3-D solid modeling.

**XWin32** is StarNet’s X terminal application, which allows Windows users to connect to Linux/Unix servers on a network and run the applications from those servers on their Windows desktops (similar to Hummingbird’s eXceed).

There are additional applications available in the NAL and in other NDS folders that contain specific college applications (and therefore may not be available in all Eos and Unity labs). Right-click the applications icon and select **Properties** to get product description, help, and contact information for the application. Plus new applications are being added, including accessibility software (**JAWS** and **Zoomtext**).

**If you have difficulty running an application, right-click its icon and select Verify. Then try opening it again.**

### Software Documentation

Documentation to support the software is often online inside the program, generally through the Help system. Also, check the software pages at [http://www.eos.ncsu.edu/software/](http://www.eos.ncsu.edu/software/) and the new documentation site, [http://manuals.eos.ncsu.edu/](http://manuals.eos.ncsu.edu/). The latter site was added this past year to provide users with access to user guides and documentation for the software applications on the system. The manuals are in both HTML
and PDF format, and a Unity login is required to access the site due to licensing restrictions. Print manuals can sometimes be ordered from the NCSU Bookstore, and D.H. Hill library also has copies of some manuals. In addition, the Web is a growing resource for software documentation, tutorials, guides, and FAQs.

**Commercial and Non-Commercial Software**

Commercial software is purchased and licensed by NCSU upon recommendation by faculty for use in classes and research. For these packages, NCSU offers support and maintenance.

Non-commercial software is not covered by an explicit contractual agreement with NCSU. It includes freeware, shareware, public-domain software, and software that is freely available for non-commercial or academic use. It may or may not be licensed, copyrighted, or in other ways protected by law. These packages are installed on the Eos/Unity system by NCSU staff, but in general are not distributed or supported by NCSU. Also, no upgrades or new versions are guaranteed. Many of these programs are excellent, but you must use them at your own risk.

**Tables of Application Software**

The software packages listed in the tables at the end of this chapter make up Eos/Unity’s main suite of software. The third-party vendor software, the so-called “commercial” packages, are listed in the first two tables, for Solaris and Windows. The third table lists public-domain, locally written, and system service applications for Solaris and Linux. There are many other public-domain, freeware, and shareware programs not listed in this table that users will want to explore themselves.

The tables place each package in a general category describing its primary function. However, many of the packages have other integrated functions that make them more versatile than the category may suggest. For this reason, an annotated list that describes more fully what each application does appears in Appendix C. The best source of information about Eos/Unity software is online at http://www.eos.ncsu.edu/software/. At this site there are individual information pages for each package, which tell what workstations run the program, the commands to execute, the tutorials and documentation available, useful Web sites, etc.