NeXTedge - NeXT's Innovative Program For Service, Support, & Training

rmNUG NeWS

May, 1991
$3.95

INSIDE:

Archie 2.0

Adobe Illustrator

Sermon On The Monitor

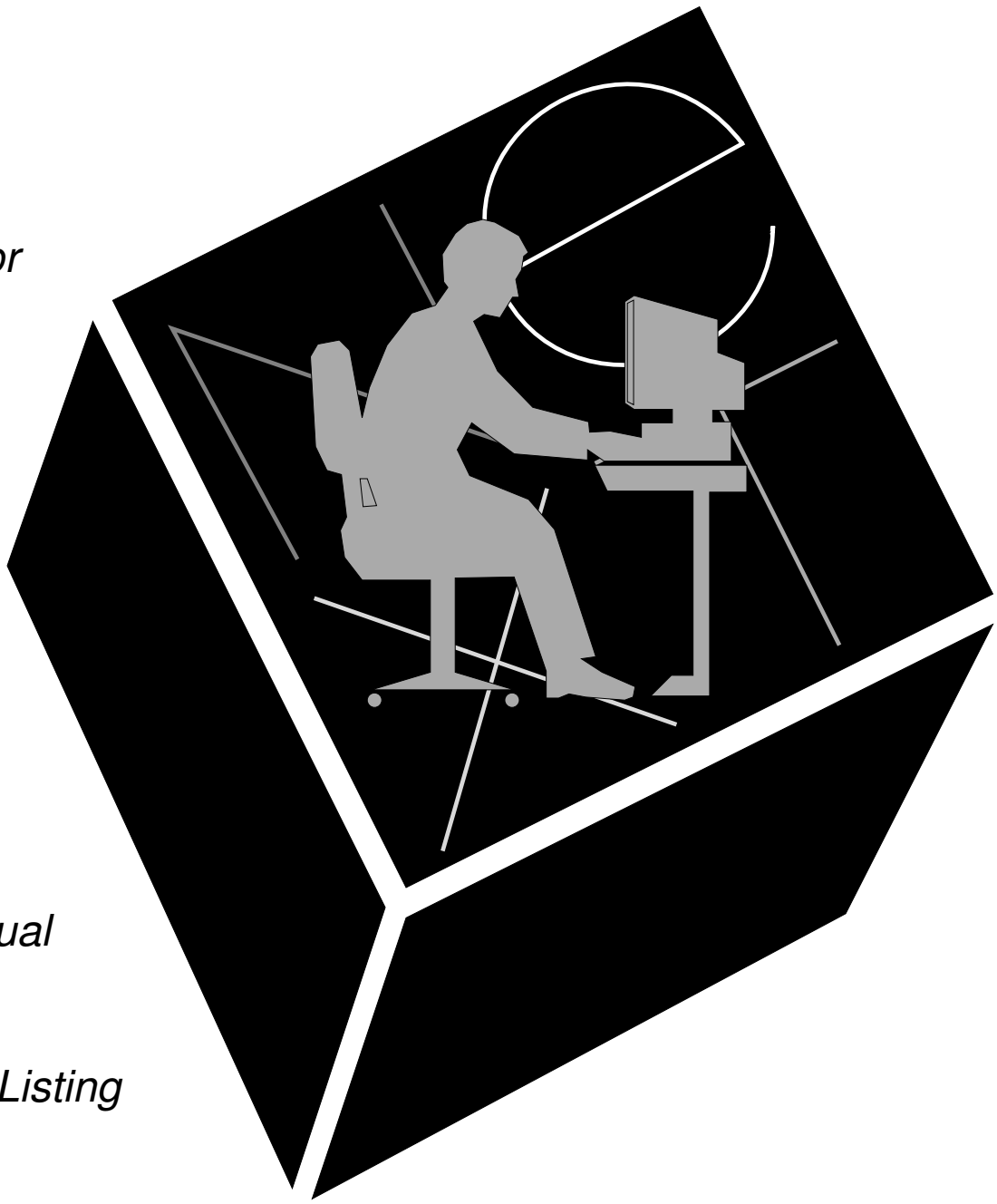
OS 2.1

Lisp

Concept's Manual

Latest Product Listing

& Much, Much More!



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The rmNUG NeWS is published monthly by the Rocky Mountain NeXT Users Group. Readers are encouraged to send their comments or contributions to: David Bowdish 73340.2146@compuserve.com

If you wish to submit an article or letter to the editor we ask that it be sent by email in the following format:

ASCII format, Headline words should be capitalized, No paragraph indents, No Tabs or side by side columns, Empty line between paragraphs, Make sure spelling is correct, especially names.

Any submissions of letters, artwork, articles, etc. will constitute implied permission for rmNUG to publish (in whole or in part) in print or electronically. Sorry, but with our budget we can only afford to offer our sincerest thanks for any contributions you may send. Special thanks to all who contributed to this publication.

Archie 2.0 ----------

The "Archie Group" of McGill University is pleased to announce Archie, the "Archive Server" Version 2.0.

Given the number of hosts being used as archive sites nowadays, there can be great difficulty in finding needed software in a distributed environment. You may know that the software that you need is out there, but it can sometimes be difficult to find. The School of Computer Science at McGill University has one solution to the problem - "archie".

Since the announcement of the dedicated-database version of archie in November, the popularity of the program has grown by leaps and bounds. From an average of about 30 logins/day in November we are now averaging over 500 with our all-time high coming in at 700 for a single day. (Our ex-boss owes us lunch for the 500+ mark :-). Archie's email interface averages about 40/day and anonymous ftp to quiche (for retrieval of the compressed site listings files in ~ftp/archie/listings) is over 70/day. Needless to say, quiche is a well-used system right about now :-)

Getting To The Point:

So how do you get to use archie? If you are Internet connected, it's easy. Telnet to quiche.cs.mcgill.ca (132.206.2.3 or 132.206.51.1) and login as user "archie". You should get a banner message and status report on our latest additions (there's no password, although we do log the sessions to provide rudimentary stats). "help" gets a list of valid commands. Feedback welcome and can be sent to archie-l@cs.mcgill.ca

NOTE: The following changes only apply to the interactive version of archie (the one you see when you telnet or rlogin to quiche) and NOT to the E-Mail interface. We will hopefully be overhauling that interface in the coming week(s).

Quick Summary

For those of you who don't want to read the whole thing, here's a quick summary of what's new in V2.0. If you want the full explanation, skip to the next section. Otherwise, see the archie online help facility.

(a) Speed and performance under load should be improved. Feedback (to archie-l@cs.mcgill.ca) on this would be appreciated.

(b) 3 new searching methods added. See help section under "set search".

(c) Output may now be sorted. See help under "set sortby".

(d) New Software Description database to help you find the names of packages to do what you want done, as well as an RFC index and other useful information. See help under "whatis".

(e) New "mail" command allows you to mail archie results back to you. Say goodbye to those hated script sessions :-). See help under "mail" and "set mailto".

(f) "list" command now tells the truth. Help "list".

(g) A "status" variable allows you to turn on or off search progress information. Help "set status".

Changes in Version 2.0

Thanks to all the feedback we've gotten over the past couple of months, we have modified archie into what we hope will be a more friendly and efficient service.

The changes in V2.0 are:

(1) Speed & Implementation

For faster execution, Archie has been rewritten using a shared memory model which greatly improves execution times especially when the host on which archie is running is under load [which, for those of you who use archie regularly, know that quiche has been for some time now :-]. This model also allows for much faster database updates. We'd appreciate feedback on what kind of response times you are getting (subjective rather than objective).

(2) Searching

Wider range of search methods. Until this point, archie could only search using regular expressions (as defined in ed(1)). Since most users don't require the power of regex's (and many who don't use them regularly have (understandably) trouble composing them), 3 new search methods have been added, bringing the total to 4.

To change the search method, set the "search" variable and use the "prog" command per usual. Command line options are in the works but have not yet been incorporated into this version of archie. The value of the search variable for each method is listed in brackets '[ ]' below. Type "help set search" at the "archie>" prompt if you want more info.

(1) Substring (case insensitive) ["sub"]. As above but ignoring the case of the strings involved. Speed about on par with the regex equivalent.

(2) Substring (case sensitive) ["subcase"]. A simple, everyday substring search. A match occurs if the file (or directory) name in the database contains the user-given substring. Slightly faster than the equivalent regex.

(3) Exact match ["exact"]. The fastest search method of all. The restriction is that the user (search) string has to exactly match (including case) the string in the database. Provided for those of who know just what you are looking for. For example, if you wanted to know where all the xlock.tar.Z files were, this is the kind of search to use. [For those of you that are interested, the search is O(1) in this case via the magic of dbm].

(4) Regex ["regex"]. The "old" method. Searches the database with the user (search) string which is given in the form of an ed(1) regular expression. This is the DEFAULT search method.

Note: The "status" line that used to appear when the "pager" variable was set and the search was proceeding (showing the number of matches found and the percentage of the database) can be enabled or disabled by the use of the "status" variable, which can either be set or unset depending on if you want the line to be displayed or not. Therefore there will be no search output displayed until the search is complete or aborted by the user.

(3) Sorting

Ordering the output. Archie V1.X had no concept of sorted output, except for the fact that we tried to do the updates in lexical order so that the output would be (mostly) sorted in that order. It didn't work. Consequently, you may now sort your 'prog' command output in 5 different ways. For each method, the "natural" sort order (or at least, what we consider to be the natural order) is the default.

To change the sort method, set the "sortby" variable. The value of the sortby variable for each method is listed in brackets '[ ]' below. Command line options are not available at this time.

The reverse sorting orders from those described here are obtained by prepending "r" to the sortby value given. (E.g. reverse hostname order "hostname" is "rhostname").

(1) Hostname order ["hostname"]. Output is sorted on the archive hostname in lexical order.

(2) File/Directory name modification time ["time"]. Output is sorted with the most recent modification times of the found file/directory names coming first (youngest -> oldest).

(3) File/Directory size ["size"]. Output is sorted by the size of the found files/directories, largest first.

(4) File/Directory name lexical order ["filename"].

(5) Database order ["none"]. In other words, effectively non sorted. This is the default order and is the one that most users of archie 1.X versions will be used to.

Note: Typing the keyboard interrupt character (Ctl-C for most people on UNIX) during a search will cause the search to aborted. The results up to that time will be sorted (determined by the value of the sortby variable) and the results output. Typing an abort character during the sort will cause that to be aborted. Results up to that point will be output.

(4) PD Software Description Database

A new database, similar to the one that the man(1) UNIX command uses when doing a "keyword" (-k option) lookup has been added to archie. The database currently contains about 2600 entries that we have gleaned from various sources (such as the comp.sources.*, alt.sources and RFC indices). The format is basically the name of a PD program, document, or software package followed by a short description of said object.

The command is "whatis" and takes a (sub)string as an argument. All lines in the database containing that substring (case insensitive) will be printed.

I think such a beast would be very useful if it were properly maintained. These current entries should be considered the mere start of the database and I'm depending on all you authors and maintainers out there to send me additions, corrections and updates to the various entries in the database. All such info should be sent to

archie-admin@cs.mcgill.ca

All entries are welcome, and I'll endeavor to keep the database up-to-date. I have not finalized what will and will not be in it so send whatever you have along and I'll make up the policy as we go along.

(5) Getting rid of those crummy "script" sessions

Your days of typing "script" before every interactive archie session are now over: archie can now mail you the results of your interactive sessions. It works like this:

(a) Set the "mailto" variable to your E-mail address

(b) Run archie as you normally would. When you get a result that you want to keep a record of (and after you have finished browsing through it if you have the pager set on) type "mail". Archie will automatically forward the results of the last request (site, prog, etc.) to the email address set before. If you have not set the address in the mailto variable you may specify one on the command line to the "mail" command. [If you do neither, and type "mail", archie will tell you].

(c) The mail is sent asynchronously (you don't have to wait for it to be sent). You will be informed when it is complete.

If the generated output from archie is greater than 45K bytes, it will automatically be split it into as many parts as required to get it to you in chunks this size or less. This is so as to cooperate with certain mail systems which don't handle 50+ K chunks. [Many thanks to Mark Crispin's c-client library of mail routines which made this code SOOOO much easier]

Note: For those of you who have to do source routing for your email, remember that the mail address given has to be a path from our machines to yours. Our mail setup here is pretty darned good (if I might say so myself) so the results should get to you in reasonable time (there's no queueing on our part unless the load gets abnormally high).

(6) What archive sites does archie know about?

The "list" command which has been out for a couple of weeks under version 1.3 is now formally part of archie. This command allows you to specify a regular expression as an argument and prints the site names in the database which match that expression, along with the primary IP address of the site and the date that archie last updated the site for the database. "list" without an argument prints the data on all sites that archie knows about.

(7) Getting kicked off for loitering

Archie now has an autologout feature (well, actually it has had one for the past couple of weeks, but we're now telling you about it :-). If you hang around for too long without doing anything, we'll bump you off and free up the resources for the next person along. We aren't very strict on this and, in fact, you can set the autologout period yourself, varying from 1 minute to 5 hours, with 1 hour being the default. The variable "autologout" controls this feature.

Things to be done

A couple of things on our wish list that still haven't been done:

(1) Restricting searches to specific sites (soon hopefully).
(2) Non UNIX sites aren't in the database (soon, maybe).
(3) GUI interface (a little further off).

The email interface will have to be brought up to the level of the interactive interface (as well as fixing some pretty annoying bugs in it), and hopefully that will be done fairly soon.

That's all for the moment folks. We would really like to see that "whatis" database get off of the ground and all contributions are welcome.

If you have any comment, suggestions or constructive criticism, please don't hesitate to drop us a line at

archie-l@cs.mcgill.ca

It was your comments which led to the above improvements and we'd like to keep hearing from you.

The "Archie Group":
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Peter Deutsch (peterd@cc.mcgill.ca)
Alan Emtage (bajan@cs.mcgill.ca)

Improv Review

Joe Barello - BaNG

NeXT employee Dave Grady, who is involved with third-party software, presented a more detailed demo of the new Lotus spreadsheet for the NeXT at the February BaNG Meeting.

Improv leads the Charge into the Brave New World of Spreadsheets

Dave began by contrasting approaching a problem with a traditional spreadsheet (s/s) versus Improv. With the traditional s/s both the formula and data belong to cells - an example would be setting one cell to the sum of a group of other cell s. Since you specify the actual geographic relationships of all the cells, it immediately becomes inflexible. If you want to physically relay out your s/s, all your formulas must be redone to reflect the new spatial relationships.

Improv, in contrast, allows relationships to be expressed algebraically with english formulas. While simple in concept, this is a huge improvement. Not only is it more flexible when you wish to revise your s/s, it is also facilitates working with a particular s/s over time. Who knows what "A3 = A2 - A1" means four weeks after setup on a traditional s/s. The formulas and cell relationships are not directly evident, and the s/s must be queried before it ca n be understood by even the person who programmed it. With Improv *profit = sales - cost* is very clear. No steps backward to investigate are required to continue development weeks later.

A very important aspect of Improv is its ability to handle "categories." An example of the use of categories power can be found in simple financial planning, where you could create three categories: plan, actual, and variance. As the names imply, the plan category would be your forecast s/s, the actual would be the true data, and the variance would be the difference. By first setting up a single spreadsheet, and then creating the three categories, the simple formula of *variance = plan - actual* would compute the entire variance category with no other formulas needed (as always you have to enter the data for the plan and actual cells). Older s/s would require tedious cell-by-cell formulas.

Another useful feature of Improv is the explicit way it resolves equation conflicts. Often times, a "row" formula and a "column" formula may intersect - old s/s would simply have the most currently defined formula for that cell take precedence. I n Improv, all such conflicts are graphically flagged, and the user explicitly chooses the desired formula. This avoids a very nasty class of errors where you're not computing what you think you expect.

The categories concept was implemented in a way that grants the user great flexibility in viewing the data. For instance, you may wish to change the axis for a category that currently is organized to display in the X-axis. Rather than redoing the whole s/s, you just drag it graphically to the Y-axis and you get a whole new view of your data with no programming! You can have up to 4 categories per axis, for a total of 12 categories maximum.

Another nice ability of Improv is to collapse groups for summary purposes. You may take a detailed break-down of expenses (simply organized as a group), and with no programming, merely request Improv to collapse that group into its summary totals just with a mouse click.

Dave went through many other capabilities of the spreadsheet beyond the scope of this review, including the use of different views, worksheets, and models. Briefly, models can contain multiple worksheets and views. You can link worksheets within a model, but not across models. The whole point of Improv is to allow a capturing of many views of a world with your s/s, giving maximum flexibility as to how you view this data without requiring constant reprogramming.

In the limitations world, Improv does support Lotus 1,2,3 data, but Improv has n o macro capability (but note that many things that macros are used for are supported by Improv directly), nor an undo command. A macro capability is anticipated in fall '91.

In retrospect, it is interesting to ask why Lotus put Improv on the NeXT. According to Dave, a major reason was simply that they COULD! The combination of virtual memory, an OOP language (Objective C), and a quality interface builder (IB) made the NeXT machine the best choice, and possibly the only reasonable choice at the time. Interestingly, Improv had been started on another platform, but the project was running into great difficulties before being moved to NeXT machines.

BaNG 20Mar91 Meeting Review:

Dick Benster - La Honda Software

Spring Hath Sprung

With the vernal equinox occurring at 7:02pm, our most recent meeting started placidly in the waning moments of winter, but ended with a BANG in spring! Director Rick Reynolds convened a crowd of over 75 people who assembled to hear about advances in desk-top publishing from software vendors Adobe and Pages Corp.

Prior to the scheduled program, the following announcements were made:

1) Adamation is looking for a NeXT programmer. Please contact Stephen Adams at (415-452-5252) if your are interested.

2) For those of you waiting for external PLI 2.88 floppy drives from NeXT Connection, they are being held up due to a lack of cables. Cables and drives will be available by 29-Mar, according to NeXT Customer Support.

3) The CD-ROM project, which has been dormant for a while, is being restarted. Please contact Rick Reynolds if you wish to help (bang_request@bang.org).

Adobe Illustrator Demonstrated

Chris Hunt, Adobe's Unix Applications Marketing Manager, provided an early look at the Adobe Illustrator for NeXT platforms. The product is currently in alpha, and will go beta end-March (Adobe has already identified 35 - 40 Beta sites), with standard customer shipments to commence end-May. Chris asked for member input on site-licenses for the Illustrator, and the audience responded very favorably to this proposal as a desirable and honorable way to purchase/distribute fixed numbers of copies of software in networked sites. Hopefully, Adobe will pursue this.

The product will probably list for about $695. Many in the audience responded that this was too high a price - $495 was deemed more appropriate by several BANGites! Chris responded by saying that the development had been very time consuming, and probably would necessitate the higher price. Unfortunately, the project was accomplished via a port from the MacIntosh Illustrator, so implementation time was not speeded up by a completely NeXT-native approach to the product. Precisely the opposite occurred in that much time was spent by Adobe preparing NeXT drawing routines that worked analogously to Mac draw routines.

According to Chris, the main criticism of Adobe Illustrator is its learning curve. Nevertheless, Adobe claims to be quite pleased with the NeXT version, which has three basic new features not found on the Mac

1) Editing and previewing of output - i.e., WYSIWYG on screen near-real-time.

2) Grids - used to "quantize" drawing to get precise lines, 90 degree angles, and areas.

3) Autotracing in color - Mac versions just did black/white autotracing. This works well with color and is greatly superior to hand-tracing.

Additionally, all the standard features of the Illustrator found on the Mac are supported:

font outlining
text resizing on a per character basis
text placement
text on a path - draw path, and text uses path as "baseline"
kerning on screen in real-time of selected text
text rotating and scaling...

Many useful tools are found on the Illustrator:

autotrace
magnify tool
free-hand tool grid
tool for right-angles
rotate tool ...

The tools are well integrated together. For instance, you can make a "guide" out of a grid, and then use the rotate tool to rotate a grid.

Complete compatibility is retained from Mac to NeXT in that files are readable once transferred to the NeXT. Note that the Illustrator is not a word processor, rather it is a "type" processor. For this reason, it can import from many word-processors, including Word Perfect.

Regarding future developments, version 4.0 is being done on the Mac currently. When it is completed, all new features and error corrections will be ported to the NeXT. DEC Motif will be Adobe's next port of the Illustrator, which is a natural since it supports display post-script. Doing a Sun port is desirable, but much more difficult, as NEWS is not sufficient to support the Illustrator with out a great deal of enhancement.

Additionally, Adobe Photo Shop should show up in approximately one year on the NeXT. The port is difficult, as Photo Shop is written in a highly machine dependant way: in Pascal specifically for Macs.

As an aside to developers, Chris mentioned that Adobe looks at approximately 12 applications per month from other vendors and does purchase third-party software when it augments Adobe's offerings. A good example of this is the excellent "Touch-Type" from NeXT guru Glenn Reed of Right Brain Software. Adobe has

acquired rights to this software, and may even incorporate components in future Illustrator upgrades.

The Adobe Illustrator will be available minimally through NeXT Connection. A highly respected BANG member recently manned a NeXT booth at a major Mac show: he reported being told by several Mac user's that the Adobe Illustrator is a compelling application, that is, one that would prompt user's to purchase NeXT machines in order to use the program with NeXT higher quality screens and graphics.

Page One Shows Off Text-Book Publishing Proof-of-Concept

Bruce Henderson of Pages Corp. (San Diego) gave BANG members a privileged look at the forthcoming Page One object-oriented page layout program, which had previously only been shown at Seybold and at a well-known Boston computer group. Pages Corp has a list of major talent from the publishing world, including founders Mike Parker and Vic Spindler, as well as Bruce Webster (author of "The NeXT Book"). What was Demo'd was not a prototype, but rather a "proof-of-concept" version which was part-functional and part mock-up.

According to Bruce, the concept of object-oriented page layout is not new; indeed, Mike Parker and Vic Spinder had discussed it for a very long time, with the roots going back some fifteen years. The product concept has evolve with desk-top technology - specification were done for the PC, then improved for the Mac, and then enhanced again for the NeXT, for which the product will finally be introduced. Their intent is obvious - to allow people to create better documents. The key distinction which allows this to occur in Page One is the separation of design from content.

Page One is built upon the interplay of 28 separate design elements (the Demo'd version showed 21 of them) that are used to guide your design (types of elements include titles, tables, captions, boxes, table of contents, fonts, number of columns, headers, footers, etc.). However, the user does not normally have a "carte blanche" in combining these - you would normally use preset designs that use specific settings for the various design elements, yielding "templates" that control your documents appearance. Five presets were shown (i.e., 2 column layout, 3 column layout, etc.) from "Vic's Vanillas" templates, named for designer Vic Spinder. These allow you to click and choose a format so you can "please make the doc look like that", without entering any other format control information.

The layout templates are very important in establishing a corporate "look and feel." Large companies spend millions of dollars on their image yearly - by allowing a layout template to control gross "look and feel", users of Page One can more easily create documents that conform to the desired appearance without wasting the massive amounts of time that currently occurs with existing products. Instead, energies are more appropriately focused on content, allowing Page One to do the layout for you within the template.

The Page Two program (which is in a true prototype stage) is used to create new templates when standard templates do not meet design desires. Thus, designers can customize/tune layouts per corporate desires, and then have them incorporated into Page One. Page Two's program's specific capabilities and availability are not yet announced - Pages Corp. will have more to say in six months.

One should not have the impression that each template's parameters are cast in stone. Much flexibility is granted in many areas, for instance in titles. There are 6 title styles: full page, full column, flush left, etc. You may choose what you like - what Page One does, however, is to keep consistency throughout the doc, so choosing "center column title" will be invoked over all titles, not just a selected title. This retains consistency and quality of appearance. For graphics, however, multiple choices can co-exists, unlike titles. Such freedom is appropriate and necessary given the diverse purposes of graphics. Indeed, the major "win" of separating format from content is flexibility; it is extremely easy to change from one layout to the next by a simple cursor click without needing to change any imbedded format control.

Another nice feature of Page One is the facility to inspect all the choices you've made. Every parameter setting is tidily viewable on a panel via a single menu click.

The audience quickly grasped the power of Page One for large text publishing - clearly, one could set up a "school text book" format for creating that type of text. Page One includes a powerful stand-alone word processor (many features are supported, including page number variables, indexing through attributes, intelligent parsing, etc.), but it also supports the import of standard word-processing docs.

Pages Corp is very optimistic about the future of Page One - it sees a "level playing field" in this new world of object-oriented publishing. It does not see itself directly competing with the Frame-like products that already exist, which are more oriented towards the specifics of perfect page layout for small docs. Page One is oriented towards "get it right the first time" layout of large docs, where it is not appropriate to spend the pains-taking time per page of smaller layouts.

Page One will take 12 - 18 months to complete. No pricing has been set, although internal discussion has thrown around the $400 - $500 figures.

NeXT BBS's

Conrad Geiger

System: Boston Computer Society
Dialup number: (617) 625-6747
Baud supported: 1200, 2400

The BCS Macintosh bulletin board provides a NeXT discussion group (select "jump to group" at the main menu).

System: LOA (Linotronic Owners Assoc.) BBS
Dialup number: (415) 861-6302
Baud supported: 1200 - 19,200

This bulletin board system runs on a NeXT cube. There are two bulletin boards: one for NeXT users, another for the printing industry.

System: SNUG (the San Diego NeXT Users' Group) BBS
Dialup number: (619) 456-2522
Baud supported: 1200, 2400

This bulletin board is maintained by Coconut Computing, which is porting its BBS software to the NeXT computer.

System: The WELL (Whole Earth 'Lectronic Link)
Dialup number: (415) 332-6106
Baud supported: 1200, 2400

The WELL is a teleconferencing system (more elaborate than a bulletin board). There is a NeXT conference (enter "go next" at the "OK" prompt) with a variety of discussion groups (enter "b" for a list of topics).

Concepts Manual Program

Eric Larson - NeXT Technical Support

Here's the scoop on the eventual breakdown of the Concepts manual:

1. Beta drafts of Overview, UI, IB, Obj C, Program Structure, Localization, Display will appear on archive servers this summer. The point to stress here is that we are trying to make these available quickly while soliciting substantive real-world comments from readers.

2. Final versions of above will be completed by the end of summer.

3. Remaining books will appear in beta form on servers in the summer and in final form in the fall.

Concepts Manual

Conrad Geiger

Q. Where on ftp can I get the NeXT Concepts Manuals?

A. Anonymous ftp to sonata.cc.purdue.edu

Look in the pub/next/docs directory for:

NextStep_Concepts.tar.Z
SndMusicDSP_Concepts.tar.Z
Concepts_README

Concepts_README

NextStep_Concepts.tar.Z and SndMusicDSP_Concepts.tar.Z are identical to the "NeXTstep Concepts" and "Sound, Music, and Signal Processing Concepts" manuals from the hard-copy technical documentation shipped in the spring of 1991. They were not distributed as part of the 2.0 (or 2.1) software release, and they are not available in electronic form directly from NeXT. Since they are very useful for learning about programming NeXT computers, you may wish to add them to your on-line documentation. Note that the "NeXTstep Concepts" chapters are based on Release 1.0; be sure to read the file Intro.rtf for details. The Sound, Music, and DSP Concepts chapters are based on Release 2.0.

NextStep_Concepts.tar.Z occupies 1.56 Megabytes. When unarchived, it's 6.66 Megabytes. SndMusicDSP_Concepts.tar.Z occupies 421 Kilobytes; unarchived, it's 1.25 Megabytes. Thus you'll need to have ten Megabytes free on your disk before installation. (Two of these ten Megabytes will be retrieved by deleting the archive files after unarchiving them.)

We recommend installing the NextStep and SndMusicDSP Concepts directories in /NextLibrary/Documentation/NextDev/NextStep and /NextLibrary/Documentation/NextDev/SndMusicDSP, respectively. This will place the Concepts directories alongside the corresponding Reference directories that were shipped with the 2.0 release, making the directory structure consistent with the way the documentation was organized in Release 1.0.

If these documentation directories are write-protected, you'll need to remove the write protection to install the Concepts chapters there. Check the protection by using the Workspace Manager's Inspector panel, or by typing the following Unix command in a Terminal window:

ls -l /NextLibrary/Documentation/NextDev

(If the lines for NextStep and SndMusicDSP start with something like "drwxr-xr-x 3 root", you don't have write permission.)

If you don't have write permission, you'll probably need to have root access to change the protection. These commands (and all and subsequent ones) should be typed in a Terminal window:

```
su
[if it says "You do not have permission to su root", see your system administrator]
password: [type password for root access]
# cd /NextLibrary/Documentation/NextDev
# chmod a+w NextStep
# chmod a+w SndMusicDSP
# chmod -R a+w .index
[control-D]
```

Here are instructions for ftp'ing the files into the documentation directory and unarchiving them:

ftp archive-server-name

```
login: anonymous
password: [type your login name as password]
ftp> cd directory [where "directory" is the one containing these files]
ftp> lcd /NextLibrary/Documentation/NextDev/NextStep
ftp> binary
```

```
ftp> get NextStep_Concepts.tar.Z
ftp> lcd ../SndMusicDSP
ftp> get SndMusicDSP_Concepts.tar.Z
ftp> quit
cd /NextLibrary/Documentation/NextDev/NextStep
zcat NextStep_Concepts.tar.Z | tar xvf -
cd ../SndMusicDSP
zcat SndMusicDSP_Concepts.tar.Z | tar xvf -
```

This will create Concepts subdirectories in both the NextStep and the SndMusicDSP directories, along with corresponding README files. Next, update the NextDev index:

```
cd /NextLibrary/Documentation/NextDev ixBuild -CV -NReleaseNotes
```

Indexing will take a number of minutes to complete; you'll see the filenames printed out as they're indexed. When it's done, try a few searches using the "Next Developer" target in Digital Librarian to verify that the installation and indexing were successful. Then remove the archive files:

```
rm NextStep/NextStep_Concepts.tar.Z [if it asks for confirmation, type "y"]
rm SndMusicDSP/SndMusicDSP_Concepts.tar.Z [if it asks for confirmation, type "y"]
```

You'll probably want to write-protect the directories again, if you had previously made them unprotected:

```
su
password: [type password for root access]
# chmod a-w NextStep
# chmod a-w SndMusicDSP
# chmod -R a-w .index
[control-D]
```

From the President

David Hieb - rmNUG President

This month I'd like to take the opportunity to announce Random Access, a Colorado based NeXT reseller. Based in Denver, Colorado, Random Access is the largest microcomputer reseller in the Rocky Mountain region. The company primarily markets computer products and services to large volume end users in the Fortune 2000 class. Random's product lines includes IBM, Compaq, Apple and now NeXT. Inc. Magazine ranked Random #15 based on 5-year compounded annual revenue growth of 198% and an overall growth rate of 7,761%.

Random Access is one of three authorized NeXT resellers in the U.S. There are 15 people on the Denver NeXT sales team that provide informational seminars and sales support. The Random Access roll-out for NeXT is being held the 19th and 20th of April. This event will be open to the public and your encouraged to drop by and visit with the sales staff.

We at rmNUG are particularly excited about Random Access and what they will be able to do for NeXT in the Denver area. I hope to be able to form a tight alliance with them so that we can mutually benefit from each others existence. We will be planning on having future rmNUG meetings at their Random Access Solutions Center. Also, we will soon be able to get a schedule of pricing for software, hardware and support for rmNUG and it's users. Good luck and thanks for filling the niche.

The Random Access Solutions Center is located at 7120 East Hampden, Denver, CO, 80224, (303)758-2525.

davehieb...

From The Board

Barb Dyker - rmNUG Administrator

The executive committee met Mar 26th, 7pm, at room CR1-16, Engineering Center, University of Colorado, Boulder. In attendance were Dave Hieb, Karl Sierka, Jacob Gore, Dave Bowdish, Barb Dyker, and Tom White.

Executive Committee meetings are held the last Tuesday of every month at 7pm and are open to all members. Meetings in odd numbered months are held at the University of Colorado, Boulder, Engineering Center, room CR1-16. Meetings in even numbered months are held at the University of Denver, Business Administration Building, Mountain Bell Conference Room 421.

Old Business: Jacob got the check stamp. We are on a waiting list for PO Box. Newsletter format was changed as was discussed at the last meeting. However, most of the other ideas are on the back burner because they are cost prohibitive until there is sufficient outside interest.

Newsletter: There was discussion about snazzing up the newsletter with all the great capabilities of the NeXT. Dave Bowdish will try to incorporate more images and such as time permits. The concerns were currently the newsletter staff is one person, cost of increased size in dollars and kilobytes, and importing and compatibility of submitted images. Dave Bowdish will also look at possibly adding a "back page" classified type section.

CompuServe NeXT Forum: Should be open the first or second week in May.

Future meetings: Kelly Mattson from Frame Technology will demonstrate their new product at the April meeting on the 17th at the Auraria campus in Denver. May will host Tim Carlin from NeXT on the 8th. Lotus has promised to come at an unspecified time in the future. Other future line-ups are Informix, Pencom, and talks on PostScript and PERL.

What's NeXT: At this extravaganza, we decided to make available a one page, flyer with the cover of a newsletter on one side and a introduction to the group on the other side. At least 500 copies will be printed to distribute. 50 copies of the May newsletter will also be available to distribute to sincerely interested comers.

Jacob and Karl will man a booth for information on the Free Software Foundation and their wares. Other members of rmNUG will be there throughout the day to help demonstrate software and promote the group. Unfortunately the organizers could not attend the exec meeting (spring-break) to clear up logistical questions.

rmNUG NeXTworking: or whatever you want to call it. Barb will be sending out the forms for requesting an account on the rmNUG email/news node with the surveys - hopefully this week. The hardware for the node is ready (an 040 cube with 660mb disk, 28mb memory). When the netinfo database at CSM is reconfigured, the software can be setup (hopefully this week). Jacob will do uucp, Barb will do sendmail, Dave Hieb will do the nameservice, Darren Hardy will do news (right Darren), and Barb will do backup software.

Software Contribution: Dave Hieb provided a wish list. Karl will start getting more contributions and come up with a database to track them. Thanks to the efforts of the What's NeXT? group, our "library" should increase considerably after the show.

Incorporation/By-laws: No update in status.

Surveys: 17 surveys were completed at the last rmNUG meeting. They will be sent to the entire mailing list this week. Hopefully the results will be available for the next newsletter.

Fort Collins group: Unfortunately a representative from Fort Collins couldn't make it to discuss a cooperative effort to start some user group activity there. Since the board meeting, we've found out that two csuNUG members will work together to revive the Ft. Collins group.

Infocom: This event will be May 1-3 at the Denver Convention Center. We hope to participate through a joint effort with NeXT, Random Access, and Bob Gregory. Nothing has been finalized at this point.

Membership: In order to more effectively check meeting attendance, Barb will get a clipboard and pen to go with the sign-in sheets. A pre-printed list of paid members will also be available for those attending to check off. Barb will also look at providing membership cards/nametags.

March rmNUG Meeting

Barb Dyker - rmNUG Administrator

The March meeting of rmNUG was held on the 13th at the University of Colorado, Boulder, Business School.

Surveys were distributed and collected. They will be sent to everyone on our mailing list who was not at the meeting to get information in order to help the group better serve the users. Applications for accounts on the rmNUG Electronic Systems will also be mailed to users.

Garrett Rice, NeXT, presented information about the "What's NeXT" event that will be at CU, Boulder on April 18th, 10am-5pm. Volunteers are needed to help demonstrate products on that day. To volunteer, contact Tracy Lessin at 449-4711.

Ted Weverka announced he is starting a Mathematica users' group. If you are interested, contact him at: weverka@boulder.colorado.edu, 494-2076.

Doug Simons, of Thoughtful Software in Fort Collins, presented an early preview of their upcoming HyperCube product. HyperCube is a HyperCard-like application for the NeXT computer. With the power and interface tools of the NeXT, HyperCube is also more powerful than its predecessors.

HyperCube is expected to be released around August 91. It will be compatible with HyperCard 2.0 and will support the HIFF standard via an import function. HyperCube uses a language, like HyperTalk, called CubeTalk which is basically a HyperTalk superset. Some of the features Doug discussed and/or demonstrated are:

* extensibility by an xcmd-like interface
* customizable menus
* unlimited layering (HyperCard supports 2 layers)
* layer locking
* drawings are object-oriented rather than bitmaps
* built-in sound support - unlimited CubeTalk script size
* unlimited number of simultaneous open windows
* multiple windows open to the same stack all show stack changes

The HyperCube application itself will be extensible for user customization. The initial release will support color although there was no color system to demonstrate this on. Features that will not be incorporated in the initial release but may be in future releases are:

* support for HyperText
* multi-user and networking features

Database Programmers Needed

Boss Logic Press Release

NeXT Developer, Boss Logic Inc. is looking for 2-4 outstanding employees to come on board as soon as possible to work on Boss Document Management System. We need good programmers who ideally have experience in the following:

NeXT Computer with knowledge of Sybase and Oracle

Otherwise, the programmers' qualifications should encompass most, if not all of the following criterion:

1) experience in Objective C
2) SQL
3) Unix
4) Object Oriented Programming & Design
5) Sybase
6) Oracle

The new programmers would be based in Fairfield or San Francisco, if they are joining the development team, or if they are involved in the on site integration they would be in Los Angeles, New York, or Boston. This is a great opportunity for a person with good technical skills to work with our team on Boss Document Management System, or to do on site customization for users in specific industries. Salaries will be competitive.

We look forward to welcoming new team members soon!

If you happen to know of a good programmer who fits the qualifications, please FAX the resume right away: (515)472-7787 or phone (515)472-7740.

The postal address is the following:
Ann Lynn Wilson
Boss Logic, Inc.
406 W. Depot
Fairfield, Iowa 52556

MailService

Conrad Geiger and Eric Celeste

I sent a working service with complete source code to the purdue archives earlier this month. Look for a file called MailSerSource.-tar.Z in the pub/next/2.0-release/source directory. MailService is a full and commented service which registers itself and then provides the user with the ability to mail any arbitrary selection of text to themself or another user.

This makes grabbing NeXTmail from a terminal window very easy--just select it, hit the service's menu item, and open up the NeXT Mail app.

Anyway, it also goes a small way toward clearing up service mysteries.

Enjoy! ...Eric
<efc@ATHENA.MIT.EDU>

Motorola Archive Access

Todd Day

How to access the Motorola DSP 56000 source file archive

How can you access the archive? Via ftp or email to an archive server.

EMAIL: Send a message (subject is ignored) containing the line help to

archive-server@cc.purdue.edu

You will be sent instructions on how to make the archive server send you the files as though you were ftp'ing (see below).

FTP: You may ftp to

sonata.cc.purdue.edu 128.210.15.30
nova.cc.purdue.edu 128.210.7.22

The files are located in pub/nextDSP

The rules for ftp at this site are typical... don't abuse it. ftp'ing after business hours is always courteous.

Please note that I do not have any direct control over the files at this site. Any technical questions should be directed to the system administrators there. They are nice enough to allow me to put up and maintain the archives on their machines, so I'd like you to be nice to them.

Although their system allows you to directly submit source to the archive there, I would appreciate it if you would send it my way first so I might try it out and decide where it best fits. Please contact me before sending any large amounts of source.

That reminds me... I'd like to maintain this as a source-only type resource. I'd like to avoid posting compiled source (i.e., binaries or .S19 files) since development systems are rarely alike for the 56000.

Right now I am looking for program source that does standard processing tricks with audio (chorusing, flanging, echoing, pitch shift, etc.). Also looking for Dr. Bub downloads, if you have any. I haven't been on that board for a while...

Thank you for your cooperation.

Todd Day
appmag!todd@hub.ucsb.edu

New NeXT SIG

Conrad Geiger

There is now a new NeXT Special Interest Group dedicated to NeXT Communications and TeleCommunications issues. If you would like to join, then send email to...

nextcomm-request@marble.com
(to add or delete yourself from list)

To post to all members of the list, send email to ...

nextcomm@marble.com
(for submissions to be redistributed)

The list is an UNMODERATED list.

NeXT Management Takeover

Conrad Geiger

Steve Jobs got married on March 18.

Editor's note: At press time we were unable to determine if the wedding cake was in the shape of a cube.

NeXT Answers

NeXT Release

The March release of NextAnswers is now available on the Internet archive servers. NextAnswers is a collection of answers to commonly asked technical questions about the NeXT Computer System. The topics covered include system administration, programming, and NeXT applications. When incorporated into Digital Librarian, NextAnswers will supplement the existing on-line and printed documentation, further helping you to understand and apply the power of the NeXT Computer.

We recommend that you obtain NextAnswers and have it installed on the NeXT computers at your site. (For those of you with access to the NeXT filesystem, NextAnswers will soon appear under /LocalLibrary/Organization.) NextAnswers can be obtained three ways: by ftp from an archive server, by email from Purdue, or on a disk from NeXT if you don't have access to the Internet. We believe you'll find NextAnswers an invaluable source of information! If you have any problems obtaining it or installing it, contact NeXT Technical Support.

In addition, there is a new directory called MiniExamples that contains small programming examples from NeXT Developer Support. The current examples show how to program with Services, how to implement a grabber, how to drag an image into a Text object, and how to use the NXBrowser class. The MiniExamples occupy 119K when unarchived.

There is also a directory called TechSupportNotes on the archive servers, which contains longer Technical Support Notes from NeXT.

(There are no new TechSupportNotes since January.)

Finally, the "Concepts" chapters of the Technical Documentation are now available on the archive servers, as discussed in a separate email message.

If you don't have Internet access, send an optical or floppy disk to:

NextAnswers
Technical Support
NeXT Computers, Inc.
900 Chesapeake Dr.
Redwood City, CA 94603

Inside the directory we will send you is a file called INSTALL.wn that contains complete instructions on how to finish the installation. If there is space on the floppy, we'll send you the files uncompressed; otherwise, they'll be tar'd and compressed.

If you do have Internet access, here are the instructions for obtaining it from an archive server. You can obtain NextAnswers via anonymous ftp (file transfer protocol) from one of the following Internet archive servers:

sonata.cc.purdue.edu 128.210.15.30 pub/next/docs
cs.orst.edu 128.193.32.1 pub/next/documents/NextAnswers

The MiniExamples are in these directories:
cs.orst.edu pub/next/documents/NextAnswers/MiniExamples
sonata.cc.purdue.edu pub/next/docs/MiniExamples

Purdue also maintains an email-based archive server, for those without ftp access. Send a message consisting of "help" to archive-server@cc.purdue.edu. If the "From:" line in your message header will not be in Internet format (e.g., name@site.edu), include a line in your message like "path name@site.edu" or "path wellknownsite!yoursite!yourname@uunet.uu.net". Note that neither name@site.bitnet nor name@site.UUCP will work.

To retrieve the files from an ftp-based archive server, make sure you have about two megabytes of free space on your disk, then su to root in a Terminal window and type the following commands:

```
mkdirs /LocalLibrary/NextAnswers
mkdirs /LocalLibrary/MiniExamples
cd /LocalLibrary/NextAnswers
ftp hostname-or-IP-address [see table above]
[Login:] anonymous
[enter your own login name as the password]
ftp> cd NextAnswers-directory [see table above for the name]
ftp> binary
ftp> get NextAnswers_Mar_90.tar.Z
ftp> lcd /LocalLibrary/MiniExamples
ftp> cd MiniExamples-directory [see table above for the name]
ftp> mget *
[then type "y" for each file]
ftp> quit
zcat NextAnswers_Mar_90.tar.Z | tar -xvf -
cd /LocalLibrary/MiniExamples
zcat AtYourService_Mar_91.tar.Z | tar -xvf -
zcat Grabber_Mar_91.tar.Z | tar -xvf -
zcat ImageText_Mar_91.tar.Z | tar -xvf -
zcat NormalBrowser_Mar_91.tar.Z | tar -xvf -
```

This will create a subdirectory of /LocalLibrary/NextAnswers called Mar_91, and it will put the unarchived programming examples in:

/LocalLibrary/MiniExamples. Inside Mar_91 will be a WriteNow file called INSTALL.wn that contains complete instructions on how to finish the installation of NextAnswers.

NeXTedge

NeXT Press Releases

COMPREHENSIVE SERVICE, SUPPORT, AND TRAINING PROGRAM

NeXT has brought all of its customer service and support programs together into one, new organization -- NeXTedge. NeXTedge includes hardware service, software support, training, leveraged support partnerships, and more.

NeXTedge's Customer Education group offers four training courses. These courses have been redesigned to include Release 2.0 and have been expanded to allow for more comprehensive discussion and increased hands-on lab time. All classes are held regularly at NeXT locations around the country. Call 1-800-848-NeXT for more course and/or schedule information or to register for any NeXT education course.

Courses currently offered:

1. Introduction to Interpersonal Computing
A two-day course focusing on the fundamentals of using and maintaining a NeXT computer, with emphasis on effective personal and interpersonal computing skills.

2. Improv 1.0
A two-day course designed for end users with previous experience on a NeXT machine. The course concentrates on the fundamentals of using Lotus Improv on the NeXT computer to analyze data and create powerful graphical presentations using Lotus' charting tool, Presentation Builder.

3. NeXT System Administration
This five-day course teaches how to use, administer, and network NeXT computers.

4. NeXT Hardware Service
This two-and-a-half day course focuses on general usage, maintenance, and hardware service.

Motorola Will Provide Hardware Service

NeXT also announced that it has signed an agreement with the Field Service Division of Motorola Inc.'s Computer Group under which Motorola will be NeXT's preferred service provider in the U.S., Canada and Puerto Rico, with primary responsibility for providing hardware service to NeXT's direct customers.

NeXTedge will enable customers to obtain support and service from wherever they purchase their NeXT equipment: directly from NeXT or through a value-added reseller (VAR), dealer or other distribution channel. NeXTedge provides a one-year warranty service that is bundled with all NeXT equipment, as well as a menu of additional service options, support products and education courses.

"The trend in the computer industry is for vendors to take greater responsibility for post-sales service and support through all channels," said Paul Vais, director of NeXTedge at NeXT. "We decided to take responsibility one step further, to offer our customers service, support and training that is as innovative and high-quality as NeXT computers themselves. With this goal in mind, we created NeXTedge."

Motorola Agreement
In March, and as part of the NeXTedge program, NeXT expanded its existing partnership with Motorola to include service of NeXT computers. The two companies have a long, established relationship: NeXT shipped the first computer to be powered by Motorola's 68040 microprocessor, and all NeXT computers also incorporate Motorola's 56001 Digital Signal Processor (DSP) chip.

Under the auspices of NeXTedge, Motorola's nationwide network of field engineers will provide hardware service for NeXT customers. Motorola has approximately 450 field engineers at 150 U.S. and 6 Canadian locations, who have been trained in hardware and UNIX systems since 1981.

"Motorola has a very successful history servicing UNIX systems," said Carol Dickson, vice president marketing and sales for Motorola's Field Service Division, headquartered in Dallas. "We are very pleased to be adding NeXT to our program."

Software Release 2.1 Announcement

Alan M. Marcum NeXT Technical Support

Release Description

Software Release 2.1 is now shipping with all new NeXT hardware and software products. The primary objective of Release 2.1 is to support NeXT's new color platforms, NeXTstation Color and NeXTdimension; however, some Release 2.0 customers may want the software improvements in Release 2.1. This release contains no new features, and most Release 2.0 users of monochrome systems won't need to update to the new release.

Some third-party products may require Release 2.1; for example, some fax modems require Release 2.1, although most modems will work perfectly with Release 2.0. If you have any questions regarding the compatibility of a third-party product and the software release you're currently running, please contact the individual vendor.

Aside from color support, Release 2.1 contains the following improvements over Release 2.0:

* Fully supported internationalization of NeXT applications. This affects users who require nationalized versions of software to run in a foreign country's native language.

* Improved reliability of very long (an hour or more) sound or music sequences.

* A more robust serial port driver, especially for high baud rates (9600 baud or greater). This will affect customers who use NeXT computers as dial-in servers or UUCP sites.

* More robust handling of very large font folders (containing thousands of fonts) or Font folders shared over the network. For casual use of Font folders on an individual computer, Release 2.0 is sufficient.

* Printing support to non-NeXT PostScript printers over the serial port.

* Fix to LoginHook (although the standard NeXT login window is not affected). The fixed function only applies to sites that force a customized login sequence to occur when users log in.

* Fix to the tanh (hyperbolic tangent) function. It now produces the correct results in all cases.

* Performance improvement (by more than an order of magnitude) of the floor function. This may be important to developers who frequently use this function.

* Fix to the system constant HUGE. It has been set to the correct value (it was set to -Infinity in 2.0).

* An improved gdb debugger that's able to kill processes more reliably.

Release Philosophy

NeXT usually recommends that users upgrade to each major software release, i.e., from Release 1.n to 2.n to 3.n. We try to schedule these required upgrades relatively infrequently so that upgrading doesn't become a burden. Updates to minor releases (e.g., from 2.0 to 2.1) aren't generally required, except for specific new hardware support or special needs. Minor releases will obviously be more frequent than major releases, but we also try to provide software tools to make the update process simple and painless.

Products Affected

All newly shipping hardware and software products have been revised to reflect the new software release. All computer systems, including monochrome systems, will have Software Release 2.1 preloaded on their hard disks. The major Release 2.1 software products offered are:

* Software Release 2.1 Extended Upgrade (N5507). Upgrades to Release 2.1 Extended with a magneto-optical disk.

* Software Release 2.1 Update Set (N7022). Updates Release 2.0 to Release 2.1 with floppy disks.

* Software Release 2.1 Floppy Disk Installation Set (N5512). Installs Release 2.1 (without Extensions) on a hard disk.

* Software Release 2.1 Extensions Floppy Disk Installation Set (N5513). Installs Release 2.1 Extensions on a hard disk.

* Software Release 2.0/2.1 Upgrade License (N5516). Permits usage of N5507 to upgrade an additional machine.

Product Announcement N7022
Update Set, Software Release 2.1 $50.00

Product Description

This product updates Software Release 2.0 to Software Release 2.1, and Software Release 2.0 Extended to Software Release 2.1 Extended. Although the primary objective of Release 2.1 is to support NeXT's new color products, the Update Set is for customers with monochrome systems who want to take advantage of the software improvements in Release 2.1.

The Update Set only contains the differences between the 2.0 and 2.1 releases, and not the entire 2.1 release; thus, only Release 2.0 users are able to utilize the update software. The product consists of 2.88 MB floppy disks and an instruction manual; the update won't be provided on any other media. Please note that this product is being sold at NeXT's cost.

Product Usage

The software tools in the Update Set will automatically replace files that were modified for Release 2.1. Users don't have to backup any personal files on their hard disks as the update software will avoid standard user files.

Licensing fees aren't associated with each copy of the update software. Thus the Update Set grants the buyer a license to copy and install the NeXT Update Set Software on any NeXT computer for which NeXT Software Release 2.0 has previously been licensed.

Ordering Instructions:

Ordering one or more copies of N7022 Update Set is just like ordering any other NeXT product. If you have questions about the ordering process, please call 1-800-848-NeXT for assistance.

Morning Star Technologies Announcement

Press Release

Morning Star Technologies is pleased to announce the release and shipment of Serial Port X.25 software for the NeXT. When making inquires please use part number X.25/Daemon-S for the NeXT 040 machine.

Morning Star Advantage

The Morning Star X.25 communications gateway allows most UNIX* systems to communicate with other devices that are attached either directly or through public and private packet switched networks. The X.25 gateway software runs on all of the existing Morning Star hardware platforms and will operate on all future platform designs. Interface Flexibility Morning Star supports numerous interfaces to the X.25 gateway product. The IP driver interface turns your system into a powerful internetwork

gateway. Local IP traffic is routed to any destination the X.25 networks that are connected to the Morning Star gateway. This allows users to share system resources among multiple, remote locations using their computers TCP/IP facilities.

The socket interface is source code compatible with the SunLink* packet level interface. Any applications developed to run over SunLink X.25 can simply be recompiled with the Morning Star supplied libraries, giving the customer a transparent migration path to a wide range of UNIX platforms. Remote PAD users can establish transparent login sessions on the local machine using the X.29 interface. The X.3/X.28 PAD interface supports outgoing calls via cu, tip and UUCP.

The wide variety of interfaces provided by the Morning

Star X.25 communications gateway make it one of the most flexible products on the market today.

Packet Switching

The X.25 communications gateway serves as a packet switch for multiple devices or for networks connected to it. The Morning Star gateway can be used to insulate a Public Data Network from a non-compliant or non-certified X.25 device.

Hardware Flexibility

The X.25 gateway software runs on a wide range of hardware platforms giving it the flexibility to work on most UNIX computer systems manufactured today. Because of the range of our hardware products, the customer can select the platform that suits their performance needs and budget. Morning Star offers a wide variety of the most frequently used serial interface types.

CCITT Compliant

Morning Star X.25 software is 1980, 1984 and 1988 CCITT compliant. The software is DDN and TYMNET certified with new certifications being added as they are requested.

X.25 Communications

Today Morning Star Technologies announced their release of the first X.25 communications product for the NeXT platform.

What is X.25?

X.25 was first proposed by the CCITT (Consultative Committee for International Telegraph and Telephone) in 1979 as a general purpose packet switch data format for use between data processing equipment.

X.25 proposal was designed to prevent networks in different countries from developing mutually incompatible interfaces. It spans the lower three layers of the seven-layer OSI network model (network, data link, and physical layers) and permits full network layer service by the network service vendors throughout the globe. The proposal has been modified and updated over the years, and has steadily gained support. It is rapidly becoming the protocol of choice for efficient wide-area data communications, many large networks having been built around it. Telenet, Tymnet, and Accunet are well known examples in the United States, and most European governments have established their own, such as the German Post Office network and the French Datapac network.

Native TCP/IP Applications Can Work Over X.25

Morning Star X.25 provides an easy and flexible means of transferring data between the NeXT system and an X.25 network. Users of the NeXT system have a complete access to X.25 networks for wide-area data exchange, or simply for system-to-system file transfer in a two node "network". Using the integral X.3/X.28 PAD and X.29 user interfaces, remote login and interactive terminal sessions across large networks are possible. The NeXT's native TCP/IP implementation can use X.25 virtual circuits as described in RFC-877 to create a wide-area internetwork, providing access to remote hosts using the same TCP/IP protocols and familiar commands as on the local area network.

Works With Existing Applications

Customers who have written applications that run with Sun Microsystems SunLink X.25 product need only recompile using Morning Star's libraries and the application will now run on the NeXT system.

NeXT's Donated To DU

Christine de Aragon

The College of Business Administration (CBA) recently received a generous donation of NeXTstation computers from the University of Denver alumni and US West Communications.

US West matched the donations by DU Alumni who work for the local communications company. The retail value of the donation equalled about $200,000 in computer equipment. The benefactors were organized by DU alumnus Robert R. Gregory who is also a retired US West employee.

CBA purchased 29 NeXTstation computers, and five NeXT printers. "We plan to put together a NeXT lab and a number of the workstations will be placed with key CBA faculty to encourage usage," said Robert Dahlen, Director of Information Systems and Technology, CBA.

Although a location for the lab is not yet finalized the lab is expected to be operational by spring quarter, added Dahlen.

The grant also provided for a NeXTstation currently located in the Faculty Computing Lab in GCB 323. "Although the computer was purchased with a CBA grant, any faculty member interested in the NeXT computer may use it," said Carol Taylor, senior software specialist for Computing and Information Resources (CaIR).

"The faculty are excited (about the new computers), in spite of the fact that they will have to learn a new platform," said Dahlen. "They are thrilled about the power of the software which is not available on any other platform."

Improv, by Lotus Development Corporation and creators of Lotus 1- 2-3, is one example of a revolutionary spreadsheet package designed specifically for the NeXT platform. The workstations will also run WordPerfect as the wordprocessing software.

"The NeXT workstation is easier to use than a PC and maybe a little more complex than a Macintosh but I'll know more when all of the software is loaded," said Dr. Richard A Scudder, a professor in Management Information Systems, who has been working on the computer only two weeks.

"The NeXTstation is taking a similar path the Macintosh took when it first came out. The Macintosh wasn't popular in the business world at first. Some considered it a toy, a novelty," said Dahlen. "Given the same growth curve, NeXT could be a real contender in the computer market."

Some individuals condemn the NeXT platform because the lack of available and compatible software packages for the workstation. Dahlen, however, sees a bright future for the NeXT platform.

"The more powerful machine, as with the NeXTstation, the more sophisticated the software," Dahlen said. "The sophisticated software designed specifically for the NeXT platform will pull the NeXTstation into popularity."

NeXT SHIPS 8,000 CPUs IN FIRST QUARTER

NeXT Press Release

NeXT Computer, Inc. announced that it shipped 8,000 NeXT CPUs during the first quarter of 1991, which ended March 31. It was NeXT's first full quarter shipping its new line of workstations.

All of NeXT's shipments were into the professional workstation category, making NeXT one of the leading vendors in this segment. Professional workstations, unlike traditional scientific/technical workstations, are UNIX workstations designed for non-technical users.

"In our first full quarter shipping the new systems, we think NeXT has nearly matched market leader Sun in shipments to the professional workstation segment," said Steven P. Jobs, president and CEO of NeXT. "Customers are beginning to grasp the benefits of NeXT's concept of 'UNIX for mere mortals' and they like what they see."

Comparing NeXT's first quarter 1991 with other vendors' most recently reported sales, NeXT tied with Digital Equipment Corporation in the overall workstation market. In the professional workstation category, NeXT ran a close second to market leader Sun Microsystems.

Sixty percent of NeXT's sales were to customers in business and government and 40 percent were to universities. More than 30 percent of NeXT's 8,000 CPUs were sold internationally to customers in Europe and Asia. NeXT coordinates its European activities through its three subsidiaries in the United Kingdom, France and Germany. In Asia, Canon, Inc. is the company's exclusive representative.

Professional Workstations

Professional workstations represent a rapidly emerging new category of UNIX workstations. Professional workstation users require the power, networking and multitasking capabilities of UNIX workstations, but also need a computer that runs personal computer-like productivity applications and is easy to use. These users work in areas such as publishing, financial services, entertainment/advertising, medical and legal services, government and higher education.

Customers in non-technical fields generally purchase workstations rather than personal computers for three reasons: to develop mission-critical custom applications; to run networking-intensive installations; and to run more powerful versions of productivity applications than are available for personal computers. In time, NeXT believes, they will also demand greater interpersonal computing capabilities to increase group productivity and collaboration.

NeXT computers have the technology that commercial users are seeking as they migrate to workstation technology. NeXTstep, NeXT's graphical user interface and application development environment, offers the most powerful and easiest to use environment for custom application development. NeXT's systems also provide extremely powerful built-in networking capabilities (including TCP/IP and both twisted-pair and thin Ethernet) yet setting up and navigating around a network on NeXT is extremely simple.

Unlike other workstation vendors, NeXT has a wide assortment of breakthrough productivity applications, such as Lotus Improv and WordPerfect (both shipping now). These applications are superior in functionality to, but compatible with, their versions on other platforms. They also have the ability to read files by other spreadsheet and word processing vendors, thus making them compatible with 80 percent of the installed base of software. Lastly, NeXT is the only computer company focusing on interpersonal computing, with built-in, easy-to-use electronic mail that allows everyone in an organization to use voice, text and graphics to keep each other informed.

NeXT's family of professional workstations comprises the NeXTstation and NeXTcube, which began shipping in November 1990; NeXTstation Color, which began shipping on March 12; and NeXTdimension, due to be available to customers in May. NeXT's first quarter shipment numbers do not include the two color products. All four systems are based on Motorola's 68040 microprocessor.

Distribution

One of NeXT's challenges in 1991 is to structure its distribution strategy to match the quality of its products. In the first stage of this program, NeXT is rapidly expanding its dealer base in the U.S., putting greater emphasis on campus resellers in the higher education community, forging partnerships with more value-added resellers (VARs) and increasing its direct sales force.

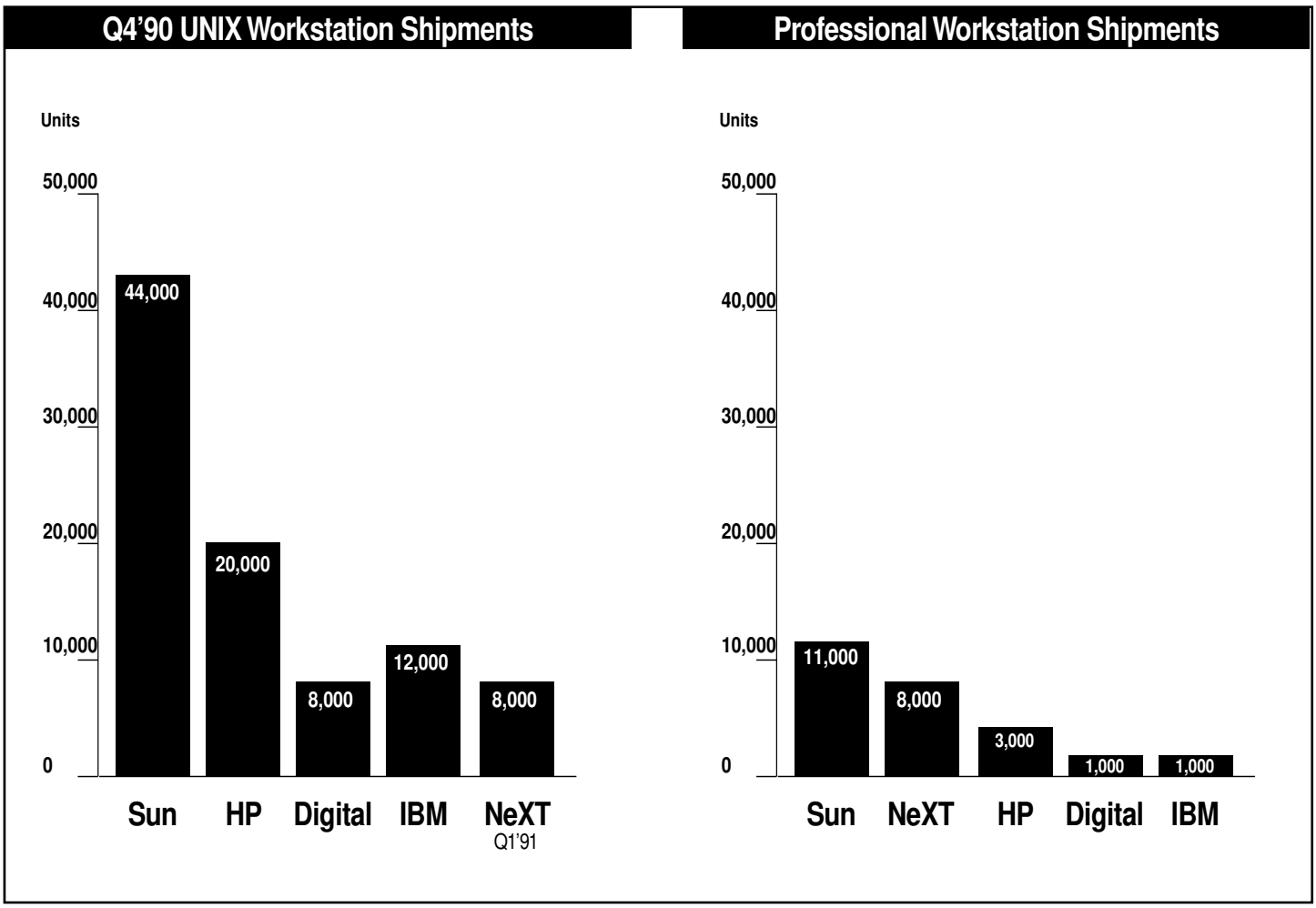
"Along with building credibility for an entirely new category of computers 'professional workstations' NeXT has also had to take a fresh look at the right distribution strategies to reach professional workstation customers," said Todd Rulon-Miller, NeXT's vice president, sales. "Our distribution goals are two-fold: to expand our total distribution capabilities and to choose channels that give us greater leverage with customers. The changes we've initiated in 1991 take us a long way toward accomplishing these goals."

To reach individuals and small- and medium-sized businesses, NeXT is establishing a network of independent dealers that are aggressive, technically savvy, owner-operated retailers with strong regional reputations. Included in this group will be individually certified Businessland centers, chosen on a case-by-case basis according to their track record selling NeXT's professional workstation products. NeXT expects that these Businessland centers will make up about 10 percent of its total dealer base.

NeXT's VAR strategy focuses on specific vertical markets that depend on proprietary custom software, and for which NeXT is particularly well suited, including publishing, financial services, entertainment/advertising, medical and legal services. Historically, more than half of all workstations have been sold through VARs.

To increase its leverage among higher education customers, (which account for 40 percent of NeXT's total sales worldwide) NeXT is concentrating more effort on campus resellers (i.e., bookstores and on-campus computer stores). The company is focusing on establishing key resellers at computer-intensive colleges and universities, which are responsible for about half of all higher education computer purchases.

Many large corporate customers, as well as many government organizations and higher education institutions, prefer to purchase computers directly from vendors instead of through intermediate channels. NeXT has doubled its direct sales force in the last six months to better serve these customers. NeXT Computer, Inc. designs, manufactures and markets professional workstations, which combine the power and networking of today's most advanced workstations with the ease of use and productivity applications of today's best personal computers. NeXT's professional workstation systems promise to enhance the way groups of people work together in the 1990s.



Off The Net

Compiled by David Bowdish

This is a compilation of articles, messages, complaints, answers, and whatever that appeared recently on Usenet and BBS's. Hopefully, you will find most of it entertaining or informative.

2.0 Extended Files

Matthew Pharr

Richard O'Neil (oneill@cs.sfu.ca) was kind enough to give this list to me, via a shell script of some sort from NeXT. I'm not sure where the script came from-i.e. it may be squirreled away on the HD somewhere, but anyway, these are all of the files that don't come on the normal 2.0 release that you need to copy to get the full 2.0 release...

matt
pharr@cs.yale.edu

/NextAdmin/InstallTablet
/NextApps/InterfaceBuilder
/NextApps/Quotations
/NextDeveloper/Apps
/NextDeveloper/Demos/Automata
/NextDeveloper/Demos/Balancer.app
/NextDeveloper/Demos/Billiards.app
/NextDeveloper/Demos/BreakApp
/NextDeveloper/Demos/Chess
/NextDeveloper/Demos/CircuitBuilder.app
/NextDeveloper/Demos/Crop.app
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/NextDeveloper/Demos/ForYourEyesOnly
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/NextDeveloper/Demos/StatLab.app
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/NextDeveloper/Demos/TopologyLab.app
/NextDeveloper/Demos/Yap
/NextDeveloper/Demos/Zilla.app
/NextDeveloper/Examples
/NextLibrary/Bookshelves/Literature.bshlf
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/NextLibrary/Documentation/Motorola
/NextLibrary/Documentation/NextAdmin
/NextLibrary/Documentation/NextDev
/NextLibrary/Documentation/Unix/ManPages
/NextLibrary/Images/Scene_movies/eagle.movie
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/NextLibrary/Music/Scores/Examp3.score
/NextLibrary/Music/Scores/Examp4.score
/NextLibrary/Music/Scores/Examp5.score
/NextLibrary/Music/Scores/Examp6.score
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/NextLibrary/Packages/ThirdParty/Sybase_DB-Library.pkg
/NextLibrary/References/OxfordQuotations
/NextLibrary/References/Webster-Dictionary/Dictionary.nxbf
/NextLibrary/References/Webster-Dictionary/pictures
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/bin/segedit
/bin/size
/bin/strip
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/lib/cc1++
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/lib/libsys_p.a
/lib/libsys_s.a
/private/tftpboot/boot
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/private/tftpboot/mach
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/usr/bin/pswrap
/usr/bin/tex
/usr/dict/connectives
/usr/dict/papers
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/usr/dict/web2a
/usr/etc/kl_log
/usr/etc/kl_util
/usr/include
/usr/lib/NextPrinter/pdf/APS-PS_PIP_with_APS-6-108.pdf
/usr/lib/NextPrinter/pdf/APS-PS_PIP_with_APS-6-80.pdf
/usr/lib/NextPrinter/pdf/APS-PS_PIP_with_LZR_1200.pdf
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/usr/lib/emacs
/usr/lib/fastps
/usr/lib/getNAME
/usr/lib/gprof.callg
/usr/lib/gprof.flat
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/usr/lib/indexing/findFile
/usr/lib/indexing/ixClean
/usr/lib/indexing/ixDump
/usr/lib/indexing/ixFind
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/usr/lib/liby_p.a
/usr/lib/makewhatis
/usr/lib/netinfo
/usr/lib/nib
/usr/pub
/usr/template/client/tftpboot/boot
/usr/template/client/tftpboot/diagnostics
/usr/template/client/tftpboot/mach
/usr/tex
/usr/ucb/gprof
/usr/ucb/gprof++

Adobe Plans For NeXT

Carl Orthlieb - Adobe

There have been some questions on the net lately about Adobe's policy for fonts on Unix platforms. I talked to our marketing folks and hopefully we can shed some light on our direction in the Unix market.

NeXT ---- At the time that Adobe Illustrator for NeXT ships (end of May) we also plan to have the entire Adobe Font Library available for NeXT users. We will manage this in several stages. The first priority is to get the Adobe Plus Pack onto 1.44Mb floppies, followed by the traditional Adobe Type Sets 1,2, & 3, on floppies. We will then make available the entire folio on CD for those users (services bureaus, etc.) who want to buy the entire library. At the same time as the CD we hope to have all the fonts in the entire Adobe Library available by individual order directly through Adobe and possibly through some of our distributors. This latter step involves a customer calling our 800 number, ordering the specific family(ies) and Adobe producing them on an as ordered basis.

Once we know what the popular families are outside of the Plus Pack and Type Sets we will inventory them. Again, this is late May we're talking about but if everything goes right the Adobe/NeXT font situation will be completely resolved by then. Also note that eventually we hope to go to the Type On Call approach.

As for people who have bought the fonts on a Mac or PC we will work out some type of reasonable licensing exchange fee so they are not paying for the fonts all over again.

And regarding the MultiMaster technology, Adobe will bring that to the NeXT platform but our first priority is to get the above straightened out.

New App For Your Map(s)

Conrad Geiger

Announcing GeoKit....

A collection of NeXTstep objects that provide map rendering and GIS services. The kit includes a dynamic map sheet, a user-extensible geodetic projection (26 built-in projections), and a graticule object. $295 for a five user license.

call Deltos Fleet Computing (214) 540-2301

Diagram Educational Pricing

Jonathan Schwartz - Lighthouse Design, Ltd.

Hello all.

Lighthouse Design is pleased to announce the availability of academic discounts for Diagram!, an innovative presentation graphics tool for NeXT computers. Discounts are available to students and universities through NeXTConnection (1-800-800-NeXT):

$399 list
$25 for students (twenty-five dollars!)
$75 for faculty/university and staff (seventy-five dollars)

To purchase a copy of Diagram!, contact NeXTConnection at the number above.

A demo version of Diagram! is available via ftp from nova.cc.purdue.edu and cs.orst.edu. It's in pub/next/demos/Diagram.tar.Z, and it'll blow your socks off.

As we've stated previously, the only difference between the academic and commercial copies is the amount of paper you'll re-

ceive: all of Diagram!'s documentation is available on-line, though only the commercial copies ship with paper manuals and full-size boxes. The academic versions are shipped without manuals, and are otherwise identical to the commercial distribution.

Thank you all for your advice and patience. We're looking forward to your reactions. Should you have the inclination, feel free (encouraged, even) to forward this to your friends and to the nets.

Students will be requested to fax or mail a signed statement attesting to their status as registered, along with a copy of their student ID's, and a printed student ID number with campus address and phone number. Faculty/staff will be required to provide orders on official University purchase orders or letterhead.

Double Sided Optical Disks

Eric Celeste

Mass Microsystems (800-522-7979) sells double sided Cannon optical disks (DataCart MO) for around $190. They are willing to give quantity breaks as well.

These disks DO WORK in NeXT cubes. I've been using one for a few weeks now.

...Eric

Emacs 2.0

John G. Myers

Emacs 2.0, the NextStep front end to GNU emacs is available on the purdue Next Archives (sonata.cc.purdue.edu and the other machine I can't remember just now) as pub/next/2.0-release/source/Emacs-2.0.tar.Z

This is the much-awaited version that works with version 2.0 of the NeXT OS.

.John G. Myers
Internet: John.G.Myers@andrew.cmu.edu

Installing A Fujitsu Hard Drive

Izumi Ohzawa

This is a revised version of the installation note I posted last year. Some new information has been added to reflect NeXT OS upgrade to 2.0.

Izumi

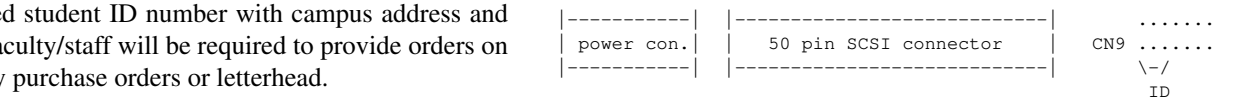
Installing FUJITSU M2263SA/SB SCSI Disk
as Internal NeXTcube Boot Disk
This note was originally posted to a USENET newsgroup comp.sys.next sometime during the summer 1990. Updates have been made to include notes for OS Release 2.0. With the exception of disk capacity related numbers, procedures described below also apply to M2261SA/SB, and M2266SA/SB (1.2GB) drives.

[0] I assume you know how to handle electro-static sensitive devices. If you don't, read Appendix C "Opening the Cube" of User's Reference which you should have received with your cube.

[1] Jumper settings on the drive

(a) SCSI target# can be set by jumper block "CN9" located right next to the SCSI bus connector of the drive. Three jumpers closest to the SCSI connector encode the target number in binary.

View from the back of the drive, with the drive UP-SIDE DOWN.



For SCSI target# 0, remove the three left-most jumpers on CN9. For SCSI target# 1, keep the left-most one, and remove the second and third jumper from left. Figure out other target ID's yourself using the left-most jumper as LSB (least significant bit). The recommended target# for internal boot disk is 1. This allows an external SCSI drive with target #0 to become the boot device when such a device is connected (without opening the cube). (The cube will boot from the SCSI device with the smallest target #. Manual booting from the ROM monitor will always allow booting from a SCSI device with any target #.)

(b) Remove two jumpers at both ends of the jumper block "CNH2".

Locate the jumper block "CNH2" between two surface-mount VSLI's whose labels are obscured by capacitors (1cm square blocks colored blue on my drive, with two leads). There are 8 jumpers in this block.

On Jumper Block "CNH2" remove:
[1-2] INQUIRY DATA
[15-16] Synchronous Mode Transfer

If you can't figure out the numbers on the block, [1-2] is at one end and indicated by a little triangle mark, and [15-16] is at the other end (8th position from the triangle).

You will be able to perform BuildDisk with these two jumpers on, and will be able to mount and use the drive if it is not used as the boot disk. However, the cube will not boot when you try to boot from the new SCSI drive later in step [8]. These two jumpers are probably the only ones you have to change from the factory configuration. On my drive, all other jumpers in block "CNH2" are installed except for the two above. All jumpers in block "CNH1" and "CNH4" are also on.

Both of the numbers in CNH2 have to be pulled out for the 68030 CPU board, but the new 68040 upgrade board might work with these jumpers ON. I have not tested this. The drive works fine with the above two jumpers OFF with 68040 CPU board too, so I just left them that way. Perhaps someone can experiment with this.

[This information was kindly provided by Helene Young-Myers, helene@secd.cs.umd.edu, and her husband Eugene D. Myers. Thank you!]

[2] Remove the 40MB swap disk if present, and install M2263S. Connect the power cable to the drive, and SCSI flat cable. Make sure that pins (50 each on the SCSI drive, and the CPU board) are not bent. Straighten them if any are bent.

If you are using an internal SCSI cable from a third-party vendor, use caution not to insert the connector upside-down. The NeXT supplied internal SCSI cable is keyed, so it shouldn't be possible to insert it upside-down. If, in step [3], "scsimodes" does not give you anything other than error messages, you might have connected the cable in the wrong way. There is a little label on the connector of the drive indicating which pin is pin-1. Make sure that the same side of the cable goes to pin-1 on the drive and the CPU board.

[3] Boot from OD, and login as user "root". Use command "scsimodes" as below to get basic formatting information, e.g., bytes per sector, etc. If "scsimodes" does not work, the most likely cause is improper cable connections.

For M2263SA

```
localhost# scsimodes /dev/rsd0a
SCSI information for /dev/rsd0a
Drive type: FUJITSU M2263S-512
512 bytes per sector
53 sectors per track
15 tracks per cylinder
1658 cylinder per volume (including spare cylinders)
3 spare sectors per cylinder
15 alternate tracks per volume
1312343 usable sectors on volume
```

For M2263SB (or SA after running "formatter")

```
localhost# scsimodes /dev/rsd0a
SCSI information for /dev/rsd0a
Drive type: FUJITSU M2263S-1024
1024 bytes per sector
28 sectors per track
15 tracks per cylinder
1658 cylinder per volume (including spare cylinders)
3 spare sectors per cylinder
15 alternate tracks per volume
690968 usable sectors on volume
```

*[3.5] Low-level Formatting (*** OPTIONAL ***)*

If you have a program "formatter" by Rory Bolt (see below), you can optionally perform a low-level format of M2263SA. You can also use a NeXT supplied program /usr/etc/sdform for this purpose although it cannot do many of the things "formatter" can. Rory's program has been written specifically for Fujitsu M226xS series drives although it works with many other SCSI drives. Your drive should work without this step, however. Therefore, skip it if you are uncomfortable doing it. Low-level formatting is not really required because the drive comes pre-formatted from factory. However, running "formatter" will give you additional 35MB of storage from M2263SA by essentially turning it into an M2263SB, speeds up the drive slightly, and it will enable automatic error recovery feature of the Fujitsu drive.

[You get about 632MB for M2263SA, and 667MB for M2263SB after i-nodes and other Unix overhead are subtracted. The difference between SA and SB is that SA has 512 bytes/sector block size while SB has 1024 bytes/sector. If you can get M2263SB instead of SA from a vendor, by all means get the SB version.]

Also, remember for future reference that there are certain SCSI disk errors which can usually be fixed by low-level formatting a drive. If your drive, after some use, develops "MEDIA ERRORs" which will be recorded in the system log file /usr/adm/messages, you might be able to fix the drive by doing a low-level format. These media errors cannot be fixed by simply re-doing BuildDisk and reloading the system. If a low-level format doesn't revive the disk, it's time to ship the disk back to the manufacturer.

Low-level formatting is different from the initialization process performed by BuildDisk or by command line "disk -i /dev/rsd0a". The init process done by BuildDisk or disk program merely lays down Unix filesystem(s), while a low-level format freshens formatting and bad-sector substitution table internal to the SCSI disk. The low-level formatting process will take 20-30 minutes for 670MB drive, while the BuildDisk init process (or "disk -i /dev/rsd0a") will take only a few minutes.

***** How to get "formatter"*

(v1.2) by Rory Bolt. This program is available from the standard NeXT archive sites via anonymous FTP if you are connected to Internet. If you do not have FTP access, Purdue University archive also operates an E-mail based file server. This is a shareware program ($15), so please send a check to Rory if the program works for you. (Once is all you need to run this program, usually. It is also a better deal than the other program TheFormatter for Wren's.) [I have no connection with Rory Bolt except as a happy user of his program.] The current version (1.2) was developed on NeXT OS 1.0, but works fine on Release 2.0 too (I've done it.)

NeXT FTP archives are as follows:

Host: nova.cc.purdue.edu or sonata.cc.purdue.edu.
Path: /pub/next/1.0-release/binaries/formatter_1.2.tar.Z (binary file)

Host: cs.orst.edu
Path: /pub/next/binaries/formatter_1.2.tar.Z (binary file)

To obtain formatter_1.2.tar.Z via E-mail based file server:
Send mail to: archive-server@cc.purdue.edu with the subject line,
Subject: send next/1.0-release/binaries formatter_1.2.tar.Z

Body of the message can be empty. You will receive the file uuencoded. Size of the program after uuencoding is about 34kbytes, thus there shouldn't be any problem for it to go through various gateways. If you have trouble with the e-mail server, or want to obtain further information on the Purdue e-mail archive server, send mail to the same address with, Subject: help

If you cannot obtain "formatter" from these sites, you can still perform low-level format with a NeXT supplied program "sdform". However, "sdform" cannot change the block size from 512 to 1024 bytes/sector, and therefore cannot increase the capacity for

M2263SA. For locking out bad sectors, “sdform” should be satisfactory. Use “sdform” as follows (as user “root”):

localhost# /usr/etc/sdform /dev/rsd0a
also takes 20-30 minutes. Do not interrupt once started.)

Release 2.0 Note
##
Skip steps [4] and [5] if you have OS Release 2.0, and want to use the whole disk as one partition. No modification to /etc/disktab is needed. Steps [4] and [5] are relevant only if one the following applies: (a) Your OS release is still 1.0 or 1.0a. (b) OS is 2.0, but you need to partition the disk into multiple filesystems.
##

[4] Add the following entry to the end of “/etc/disktab”.

If the parameters shown by “scsimodes” are different from those above, you cannot use the entry below. If you want the modified disktab to appear also in the SCSI disk’s /etc/disktab after BuildDisk, copy /etc/disktab to /usr/template/client/etc/disktab, too. (BuildDisk will copy /usr/template/client/etc/* onto a newly built disk as /private/etc/*)

Be sure to make backup copies of the unmodified disktab in each directory. Write permission may have to be set to edit these files.

```
----- cut here and append to /etc/disktab ---------------------------------
# FUJITSU M2263SA disktab
# FUJITSU M2263S-512 with 3 spare sectors/cylinder and 512 byte sectors
# localhost# scsimodes /dev/rsd0a
# SCSI information for /dev/rsd0a
# Drive type: FUJITSU M2263S-512
# 512 bytes per sector
# 53 sectors per track
# 15 tracks per cylinder
# 1658 cylinder per volume (including spare cylinders)
# 3 spare sectors per cylinder
# 15 alternate tracks per volume
# 1312343 usable sectors on volume
#
# This disktab entry from: majka@cs.ubc.ca (Marc Majka)
# Organization: UBC Department of Computer Science, Vancouver, B.C., Canada
# Fujitsu M2263S 671MB 5.25" drive with 512 byte sectors
# M2263S - One partition
M2263S-512-ALL|Fujitsu 671MB w/512 byte sectors as 1 partition:\
      :ty=fixed_rw_scsi:nc#1658:nt#15:ns#53:ss#1024:rm#3600:\
      :fp#160:bp#0:ng#0:gs#0:ga#0:ao#0:\
      :os=sdmach:z0#32:z1#96:ro=a:\
      :pa#0:sa#655875:ba#8192:fa#1024:ca#32:da#4096:ra#10:oa=time:\
            :ia:ta=4.3BSD:
# M2263S - Two partitions
M2263S-512|FUJITSU M2263S-512|Fujitsu 671MB w/512 byte sectors:\
      :ty=fixed_rw_scsi:nc#1658:nt#15:ns#53:ss#1024:rm#3600:\
      :fp#160:bp#0:ng#0:gs#0:ga#0:ao#0:\
      :os=sdmach:z0#32:z1#96:ro=a:\
      :pa#0:sa#250425:ba#8192:fa#1024:ca#32:da#4096:ra#10:oa=time:\
            :ia:ta=4.3BSD:\
      :pb#250425:sb#405450:bb#8192:fb#1024:cb#32:db#8192:rb#10:ob=time:\
            :ib:tb=4.3BSD:
#
# FUJITSU M2263SB disktab, or for M2263Sx after running "formatter".
# localhost# scsimodes /dev/rsd0a
# SCSI information for /dev/rsd0a
# Drive type: FUJITSU M2263S-1024
# 1024 bytes per sector
# 28 sectors per track
# 15 tracks per cylinder
# 1658 cylinder per volume (including spare cylinders)
# 3 spare sectors per cylinder
# 15 alternate tracks per volume
# 690968 usable sectors on volume
#
# Generated by "formatter v1.2" by Rory Bolt after low-level formatting.
# FUJITSU M2263S-1024
M2263S-1024|FUJITSU M2263S-1024|FUJITSU M2263S-1024 w/1024 byte sectors as 1 partition:\
      :ty=fixed_rw_scsi:nc#1658:nt#15:ns#28:ss#1024:rm#3600:\
      :fp#160:bp#0:ng#0:gs#0:ga#0:ao#0:\
      :os=sdmach:z0#32:z1#96:r0=a:\
      :pa#0:sa#690809:ba#8192:fa#1024:ca#32:da#4096:ra#10:oa=time:\
            :ia:ta=4.3BSD:
#
------ cut here --- end of disktab for M2263S -------------------------------
```

[5] Check if the modified /etc/disktab is valid by;

```
localhost# disk /dev/rsd0a
disk name: FUJITSU M2263S-512 (or -1024)
disk type: fixed_rw_scsi
Disk utility
disk> quit (quit this program)
localhost#
```

If the “disk” command does not recognize the drive, you have made a mistake in adding the disktab entry in step [4]. Check /etc/disktab again.

[6] Launch “BuildDisk”, select HARD DISK and run it. This takes up to one hour. If, for some reason, BuildDisk app does not work, try a command line version from Terminal.

```
localhost# builddisk sd0
```

This command is a shell script. Look at /usr/etc/builddisk if you want to find out exactly what it does. You can also give a customized /etc/BLD.* script as an option to this command.

[7] If you are using the first disktab entry (the whole disk as one large partition) or if you didn’t put a disktab entry because your OS is 2.0, you must edit “/etc/fstab” on the SCSI disk before you attempt to boot from it. After builddisk, “/etc/fstab” for some reason contains 2 partitions “sd0a”, and “sd0b”, the latter of which of course does not exist. Because of this, booting will fail and the system will come up in single-user mode in a dumb console window. If you are using the second entry (for two partitions), you don’t have to modify /etc/fstab. So, skip this step.

```
mount /dev/sd0a /mnt
chmod 644 /mnt/etc/fstab

... Edit /mnt/etc/fstab, and comment out or remove the line:
/dev/sd0b /clients 4.3 rw,noquota 0 2

umount /dev/sd0a
```

[8] Shutdown and boot from the SCSI disk.
Type ‘halt’, and you will be left in the ROM Monitor.
Type ‘bsd’ at the ROM Monitor prompt.
If the ROM monitor complains:

SCSI unexpected msg:1
sc: Unexpected msg .... repeated many times...

Then, you must have not set the jumpers correctly in step [1](b).

Once you confirm that the new disk is working, change the default boot device to hard disk using Preferences app (Power button panel).

Additional information of interest
[9] Transfer Rate
(This was done with 68030 cube under OS Release 1.0a. before low-level formatting by Rory Bolt's "formatter.")

localhost# disk /dev/rsd0a
disk name: FUJITSU M2263S-512
disk type: fixed_rw_scsi
Disk utility

disk> read
starting block? 0
sectors per transfer? 16
number of transfers? 1000
sector increment? 16
16384000 bytes in 21243 ms = 771374 bytes/s
disk> read
starting block? 0
sectors per transfer? 16
number of transfers? 1000
sector increment? 16
16384000 bytes in 21242 ms = 771374 bytes/s

For comparison, according to Ronald Antony & Axel Merk (the authors of "TheFormatter" for Wren drives), CDC Wren VI (CDC 94191-15) gives

520000 - 560000 bytes/sec for 512 bytes/sector drive without cache, and 900000 - 980000 bytes/sec with on-drive cache.

[10] Seek Noise

The Fujitsu drive is quite a bit noisy during seeks. It's not as bad as the OD drive as I said in the old note. You will certainly hear seek noise every time you receive a mail, when a File Viewer opens a directory or when someone does an rlogin, etc. By comparison, Maxtor XT-8760S, the NeXT's official 660MB drive, is dead quiet. Perhaps, the drive may not be suitable if you need a really quiet environment. But the 5-year manufacturer warranty is, for me, quite soothing :-)

I don't know how Fujitsu compares with CDC Wren drives with respect to seek noise.

[11] As always, use the information above at your own risk. I am not responsible for any damage to the SCSI drive or to the NeXT cube itself (voiding the warranty) caused directly or indirectly by the use of the information provided above.

Izumi Ohzawa
izumi@violet.berkeley.edu (standard mail)
izumi@pinoko.berkeley.edu (NeXTmail)

Installing Improv On OD systems

Art Isbell

Since my posting about transferring Improv to my floppy-less Cube, several people have asked how I did it.

I have a friend with an OD/floppy Cube, so I transferred the floppies to an OD and sneakernetted the OD back to my Cube. However, I could have transferred the contents of the floppies in one of 2 ways. I could have used the Installer App to install the contents of the floppies on my OD and then copied the installed files to my HD. Frankly, I didn't think of this method until I had already used a straight copy to transfer the contents of the 3 Improv floppies to 3 directories of files on my OD, ImprovDisk1, ImprovDisk2, and ImprovDisk3.

So the first method works fine but will not actually give you copies of the floppies themselves. If having copies is important to you, using Install isn't straightforward once copies of the 3 floppies are on your HD; Install reports that all files can't be found.

1. Create a new directory, Improv.
2. Copy Install_Help.wn from ImprovDisk1/Improv.pkg to Improv.
3. Create a new subdirectory of Improv, Improv.pkg.
4. Copy from ImprovDisk1/Improv.pkg to Improv/Improv.pkg:
 a. Improv.bom
 b. Improv.info
 c. Improv.sizes
 d. Improv.tiff
 e. Improv.tar.Z1 to Improv.tar.Z
5. Using Edit, copy, and paste or cat in a Unix shell, append to the end of Improv.tar.Z, ImprovDisk2/Improv.pkg/Improv.tar.Z2 and then ImprovDisk3/Improv.pkg/Improv.tar.Z3.
6. Follow the Improv installation instructions as if you were using floppies.

I may have gotten some of the directory and file names slightly wrong, but you'll get the idea when you see the floppy contents. You'll have to Open as Folder the Improv.pkg directories in the File Viewer, but they'll look like normal Unix directories if you prefer to work in a Unix shell.

Hope this helps.

Lisp Is Released

Kevin Layer - Franz Inc.

I am happy to announce that Allegro Common Lisp for NeXT 2.0/2.1 with either an 030 or 040 board is now released. It is being distributed on 8-1.44MB 3.5" micro floppy disks.

Contact Franz Inc. at (415) 548-3600 or info@franz.com for more information.

Job Listing

Eric Ly

We're looking for a few excellent people to join us in a new software adventure. If you have experience in either of the following areas and are looking for something better to do, please contact us:

* One year experience in developing applications utilizing Informix Wingz, of which a minimum of six months was spent programming in the Wingz Hyperscript programming language.

* Six months developing applications that utilize FrameMaker or customizing FrameMaker to meet user requirements.

Please contact me by email at:
Eric Ly
dayglow@cs.stanford.edu
or leave voicemail at:
415/497-3666

JOLT Award

John Coppinger

NeXTstep 2.0 was honored with the "Jolt Award" for most impressive programming environment in the April 1991 issue of Computer Language magazine. "The Jolt Product Excellence Award [is given] in recognition of products that gave our industry a jolt..." In praise of NeXTstep, the editors said:

"With Display PostScript, extensive support for Objective C and C++, and potent graphical run-time browsers, NeXTstep 2.0 Extended is a great operating system and development environment, the envy of all who poke along on just plain ordinary computers. Interface Builder, in particular, is to die for. If only Windows offered a tool as comprehensive."

Other environments mentioned, but not as highly regarded, were MacApp 2.0, Objectworks/Smalltalk v 4.0, and Saber-C v 3.0.

More and more, NeXTs seems to be moving into the mainstream computer industry. Perhaps with this review as a groundbreaker, NeXTstep programming will begin to receive its fair share of copy space in the popular programming journals like Computer Language, Dr. Dobbs, and Programmer's Journal. More programmer awareness means more apps. More apps means more users. More users means more machines. More machines means more programmers. Etc..

John Coppinger
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Printing Mac Postscript

Phil White

How to print PS from MAC ctrl-K on NeXT laser printer... got these off a previous posting awhile back and works great.

1. do the ctrl-K thing
2. use the MAC file transfer capabilities to get postscript0 file to NeXT
3. create the following SED script

```
1i\
%!PS-Adobe-2.0
402,421d
82,83d
20,24c\
/ok true def\
/LW false def\
/waittimeout 300 def\
/fc {} def
8,18d
```

4. execute "SED -f script-filename input-filename>output-filename.ps
5. execute "lpr output-filename.ps
6. ignore the "in steps 4 and 5 above (typo)"
7. printer does its thing and all are happy

Works 99% of the time. Occasionally get an alert for bad command "restore", but still get the output just fine.

Also, works for a DEC/VAX LPS 40 print server by doing the same things to postscript file header, except don't think you need the !PS-ADOBE-2.0

Word of caution... use only fonts available to your target printer or you'll get a warning (on a VAX) or wrong font on NeXT.

Not sure what the above is really doing to Postscript header... but thanks to whoever originally posted the method...it does the job perfectly! Best wishes.

MailHelper

Isumi Ohzawa

I have uploaded MailHelper.tar.Z to the submissions directory of cs.orst.edu. It should show up in sources directory eventually. The compressed tar file contains full sources and the executable.

--- MailHelper --
A Service Provider for NeXT Mail.app.
[Requires OS Release 2.0]

This application has been written as a work-around for deficiencies with the current NeXT Mail application, especially in the non-NeXT mail mode. MailHelper corrects these problems via a new feature of NextStep 2.0, i.e., via "Services" menu of the Mail application. Hopefully, this app will become obsolete when 3.0 is released.

It adds the following three features.

[1] It reformats pasted text in a send window so that the text fits into about 60 column width. Without reformatting, pasted-in text often appears ugly with alternating long and short lines due to inflexible line wrapping in the non-NeXT mail mode. Paragraph boundaries defined by two consecutive newline characters will be

preserved. To use this service, first paste in text into a send window, select the text you want to reformat, and press “Services”---”Mail”---”Reformat Selection”.

[2] It adds “> “to the left of each text line of pasted text to indicate that it is quoted text. To use this service, select the text you want to indicate with the quotation marks, then press “Services”---”Mail”---”Quote Selection”. You probably should reformat the text with “Reformat Selection” first before adding the quotation marks.

[3] It inserts the content of file “~/.signature” at the current cursor position. When you prepare the signature file, make sure that all lines are shorter than 60 chars. Otherwise, the inserted signature text may be wrapped at undesirable locations. To do this, press “Services”---”Mail”---”Insert Signature”.

Izumi Ohzawa
izumi@pinoko.berkeley.edu (NeXTmail)

Modem Cables

Alan M. Marcum - NeXT

Please, if you don’t REALLY understand what you’re doing, do NOT use a Macintosh modem cable. Some Mac-Modem cables might work fine with some modems and some models of NeXT computers, but there is far too much variability in Mac-Modem cables for me to recommend them. I’ve seen SIX different configurations of cables all called “Mac-Modem” cables; all but one of these simply did not work for dial-in and dial-out on the same port, and the other one worked only with some modems.

In some instances some Mac-Modem cables will work for dial-out. But it’s really easier to buy or build a cable to our wiring specifications than it is to diagnose why your modem set-up isn’t working the way it should.

As Kent Shephard noted, the cable wiring specs are documented in the zs(4) UNIX Manual Page. Please note that the hard-copy version of the zs man page is INCORRECT in the printed NeXT Network and System Administration manual for 2.0: it’s the 1.0 version of zs(4), not the 2.0 version, and so doesn’t cover the 68040’s serial ports.

In addition, no Mac-Modem cable I’ve ever seen is wired correctly for an 040-based NeXT’s hardware flow control.

I understand that serial cables built to our specs are available from NeXTconnection [800-800-NeXT].

Alan M. Marcum
NeXT Technical Support
amm@NeXT.COM

New Archive Site

Conrad Geiger

There is a new NeXT archive site! The site is at Washington University at St. Louis and has address:

wuarchive.wustl.edu 128.252.135.4 systems/next

Look in the “systems/next” directory.

Currently, wuarchive has many of the NeXT holdings from Purdue and Princeton and room for much more. All submissions are welcome. Take a look and see what you think. Please pass this information along all who may be interested.

Feel free to submit your groups’ newsletters to the archive! There are already 7 groups represented.

NeXT To Sun Floppy Transfer

Jeff Harvey

After a few questions to NeXT and my local guru I did figure out how to transfer files from sun to NeXT and back using unix formatted floppies. To transfer from sun-> next

1. format floppy
2. tar cvf /dev/rfd0a fname
3. eject disk

Now on the NeXT open up a unix shell, become superuser (you can probably avoid this if you want by changing some permissions) and type

1. tar xvf /dev/rfd0b fname

NOTE the rfd0b. This is the part that was hard to figure out. Somehow this is the active partition or something like that.

Now just

2. disk -e /dev/rfd0a

to eject the disk from the NeXT. You may also want to chown the resulting file so it is not owned by root.

To go the other way just reverse this procedure.

Hope this helps.

Jeff Harvey
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3rd Party Printers

Various

1) Can I use HP IIP or HP III with NeXT station?

Here is my experience with the Laserjet IIP (should work for the other Laserjets too, and with appropriate modifications for NEC, Apple, etc.).

1. The PrintManager lets you choose your default printer, and the various HP-s are listed; all you need to do is choose it, and the port (A or B).
2. Get a Macintosh printer cable (for the older Imagewriters, not Appletalk), or build one according to the pinouts in the manual.
3. Get a Postscript cartridge (and some memory) for the Laserjet IIP and plug it in.
4. In the configuration menu of the IIP at the DEVICE CONF. set:
SERIAL *
9600 *
ROBUST XON OFF *
DTRPOLARITY LOW*

That's it for most applications; if you have lots of graphics, be patient, it takes a while.

If you are printing dvi-files you may want to put a D 300 in your config.ps or cofig.LaserjetIIP file (read the dvips man-page or the ntman). In addition, if you want to print from TeXview (very convenient), you MUST reset the default resolution to 300 from 1270 and click on the appropriate button. Otherwise TeXview issues dvips -D 0 -o!lpr -PLaserjetIIP, and refuses to print!

Printing A Windows File On The NeXT

Ira Fuchs

Someone asked about printing a file on the NeXT that was produced using PC-Excel 3.0(a Windows app). What I have found that seems to work is to configure the Printer as an Apple Laserwriter, write to a .ps file on floppy (or send it over a network connection) to the NeXT. Double-click into Preview and voila no Postscript errors at all (not that I have done exhaustive testing mind you).

Q & A

Katarina Kim Wong

The results are in -- (thanks to everybody who responded :-)

Mikel Evins <mikel@apple.com> Chris pyrros@cis.udel.edu Kenneth K.F. Lui <tempest@ecst.csuchico.edu> John Landwehr jland@robbie.acns.nwu.edu Lawrence Lance Latour latour@wpi.WPI.EDU Art Isbell <isbell@tigger.Colorado.EDU> Erik Buck buckerim@udcps3.cps.udayton.edu Bryce Jasmer jasmerb@ohsu.EDU Mike Matthews matthews@lewhoosh.umd.edu

Q Does anybody know if Soft PC is shipping? Is this program going to be good enough that for a minute I don't know I'm not using a mid-range 286 machine?

A It is shipping. I gave a demo of the program... with Windows 3.0 on it. It was not to fun to run.... The NEXT is about 11.1 on the CPU and 10 on the Disk... meaning for pure text display and number crunching it is FAST!

Q I have internet access, but I am unsure about the mechanics of uploading NeXTmail from a home slab to my VAX account.

A There are two ways to do this, one difficult...

Mail your NeXT mail to a dummy account or to yourself. Find the resulting file(s) in the appropriate directories. These files are uuencoded, and so can be transferred by UNIX sendmail or by other ASCII transmission protocols. You then upload the uuencoded files to the Internet machine and, using your mailer's file-inclusion directive, send the file to its destination. If the receiver is a NeXT machine, the mail will be automatically readable. Otherwise, the receiving person will have to uudecode the file by hand. The amount of work it takes to send two letters this way is about equivalent to the amount of work it takes to get uucp set up and working.

...and one easy...

Get dial-in access to a UNIX host whose owners are willing to provide you a uucp account. If you are a student, you can probably get an account on the school's machines. If you work for a company with net access, they can do it. If neither of these routes is open to you, you can get an account with UUNET in Arlington, VA, or with Portal Communications in Berkeley, CA.

Q Those of you who have NeXTs, how often do you use NeXTmail, and do you really find it to be that great?

A I use NeXT mail all of the time (like now). I just wish that everyone else had it so I could send goofy pictures and some audible comments as well...

I have a lot of gripes with it but I will never go back to anything else.

One disadvantage is the large size of mail messages with sound, etc., so I guess I feel that using extra bandwidth than necessary should be avoided.

Q Having myself never used WP on the NeXT, would anybody who *has* care to comment?

A I would not pay money for it. Sure, it's neat, but it's slow (unforgivable on an 040 with 20 megs of RAM) and buggy.

I've used WordPerfect for the NeXT quite at bit and it's a very flexible program. It's more powerful than WriteNow, and I really like that I can take a 3.5" disk from an IBM with a file save by WP 5.1 (or lower) and read it DIRECTLY into WP NeXT... *all* formatting intact (except equations, a new feature on 5.1) and no intermediary programs to use.

I use it all the time. There are things that Microsoft Word can do that WriteNow can't, but I got WriteNow for free with my NeXT, and it's fine for 95% of all the writing I do. WriteNow is not adequate for very large efforts (say, 200+ pages), but either WordPerfect or a combination of WriteNow and FrameMaker would be.

Katarina Kim Wong
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The Sermon On The Monitor

Delivered by Brother I/O at the December PULSAR meeting

Dearly C-loved, we are basically assembled here today because PCing is believing. We're here to console you; ASCII and ye shall receive. We say there is a life worth debugging! Data, data everywhere, but not a thought to think, that is the problem...

Dear friends, perhaps you've interfaced with someone out there with a terminal illness, some poor hacker with bloodshot eyes in data distress who's been attacked by the evil one, Glitch, and his wicked helper Crosslink, someone whose FAT is truly in the fire. Even if your data has been blown all to HAL and it's your cluster's last stand, there's not a thing we can do to bring it back. But, we can solace you in your hour of need.

And that is why the Giver Of Data has downloaded to me, from his heavenly host mainframe, at 9,600 baud error-free, the Keyboard Prayer for the data distressed. Now let us make the sign of the monitor, (trace a square with your finger in the air), bow our heads, and pray in parallel.

The Keyboard Prayer
Our program who art in memory, HELLO be thy name. Thy keyboard hum, Thy work be done, On disk as it is in memory. Give us our data In key-field order And forgive us our I/O errors, As we forgive those with faulty logic circuits, And lead us not into frustration, But deliver us from power surges. For thine is the algorithm, the application and the solution, looping forever and ever. Return!

SIMMs Pricing

Dave Paulson

Here's an update to William Smith's price list for 1MB and 4MB SIMMs. These prices were good as of March 18, 1991.

You'll note that you can easily get 1MB SIMMs for under $45.00, and Chip Merchant is again the price leader, with 1MB SIMMs quoted at $42.00 and 4MB SIMMs for $165.00.

I asked only for price information; any statements about warranties, taking P.O.'s, etc., are repeated from earlier versions of this list.

PSI
2005 Hamilton Ave., #220, San Jose, CA 95125
800-622-1722
408-559-8544
1 Mb $59.50
4 Mb $359.00
[They take PO's; Lifetime Guarantee]

Third Wave Computing, Inc.
1826-B Kramer Lane Austin, TX 78758
800-284-0486
512-832-8282
1 Mb $45.00
4 Mb $199.00
[They take PO's]

Memory international
800-???-????
714-588-0488
1 Mb $68.00
4 Mb $298.00
[Lifetime warranty; they take P.O.'s; they won't sell to NeXT owners,
so you'll have to lie :-)]

Turbo Technologies, Inc.
112 Denton Ave. New Hyde Park, NY
800-542-7466
516-877-7777
1 Mb $49.00
4 Mb not in stock
[Lifetime warranty; they take PO's; currently offering Panasonic SIMMs]

South Coast Electronics
10920 Wilshire Blvd.Suite 110, LA, CA 90024
800-289-8801
213-208-3260
1 Mb $62.00
4 Mb $284.00
[They take PO's; Lifetime warranty]

Newer Technology
1117 S. Rock Rd. Suite 4 Wichita, KS 67207
800-678-3726
316-685-4904
1 Mb $61.00
4 Mb not available

Micro Electronic Technologies, Inc.
35 South St. Hopkinton, MA 01748
800-766-SIMM
508-435-9057
1 Mb $46.00
4 Mb $179.00
[They take PO's]

Peripheral Outlet
314 S. Broadway Ada, OK 74820
800-332-6581
405-332-6581
1 Mb $42.50
4 Mb $179.00
[Lifetime guarantee; they take PO's]

ETC
5426 Beaumont Center Blvd. Suite 340 Tampa, FL 33634
800-882-2863
813-884-2863
1 Mb $47.00
4 Mb $225.00
[They take PO's]

Shecom Computers
22755 Savi Ranch Pkwy. G, Yorba Linda, CA 92686
800-366-4433
714-637-4800
1 Mb $45.00
4 Mb $205.00
[They take PO's; 3 year warranty]

Chip Merchant
9285 Chesapeake Dr., Suite L, San Diego, CA 92123
800-426-6375
619-268-4774
1 Mb $42.00
4 Mb $165.00
[5 year guarantee; no credit cards]

Memory Plus
P.O. BOX 367 Milford, Mass 01757
800-388-PLUS
508-435-0280
1 Mb $43.00
4 Mb $185.00
[They take PO's]

Technology Works
4030 Braker Lane West, Austin, TX 78759
800-688-7466
512-794-8533
1 Mb $49.00
4 Mb $229.00
[They take PO's]

Megabyte Memory Products
737 Pearl St. Suite #208B La Jolla, CA 29037
800-748-5766
?
1 Mb?
4 Mb?
[5 year warranty; these folks seemed to be having phone problems when I called]

Stratum Technologies Inc.
12191 Technology Blvd., Austin, TX 78727
800-533-1744
512-258-3570
1 Mb $46.00
4 Mb $205.00
[Lifetime warranty; 30 day trial period; They take PO's]

Delta Research Labs
26072 Merit Circle Suite 119 Laguna Hills, CA
800-999-1593
714-367-0344
1 Mb $44.00
4 Mb $185.00
[ ]

Impediment
?
800-???-????
617-837-8877
1 Mb?
4 Mb?
[I think they take PO's; warranty 6 years]

ClearPoint Computers
?
800-253-2778
?
1 Mb?
4 Mb?
[will not quote prices over the phone]

Associated Technologies Marketing
?
800-???-????
214-248-0700
1 Mb?
4 Mb?
[]

Like Bill, I make no warranty concerning these companies, their products or services.

Dave Paulson
dpaulso@relay.nswc.navy.mil (work)
talos!SandBox!dave@uunet.uu.net (home,NeXTmail)

SIMM Compatibility

Eric P. Scott

Chip Merchant:

1MBx8 80ns [Mitsubishi] SIMMs known to work in cubes.
4MBx8 80ns [Samsung] horizontally-mounted SIMMs *did not* work in slabs.
4MBx8 80ns [Samsung] vertically-mounted ("low profile") SIMMs *did* work.
4MBx9 80ns [Samsung] horizontally-mounted SIMMs *did* work.

Technology Works:

4MBx8 80ns "low profile" SIMMs known to work in cubes and slabs.

*** TW's "official" prices are considerably higher than Chip Merchant's. However, if you tell their (deleted) what their competitors are asking, they'll negotiate.

SLIP For The NeXT

Charles L. Perkins

A few months back, I asked all interested people to write me about SLIP.

I received about 150 responses from people needing various flavors of IP connectivity at home, most of them wanting a dial-up variety.

Based on these findings (and the year or two I've been pushing NeXT to get SLIP out there :-), I helped convince Marble Associates to produce a real product for the NeXT supporting SLIP.

Here's the basic idea:

(1) For Gurus and UNIX hackers -- get the copy of 2.0 SLIP floating around in net-land (maybe someone should put it in the archives if it hasn't been along with some instructions on people's experience hacking it to run).

(2) For students -- Marble will be selling a special student SLIP for about $100-$120, fully supported and easy to install.

(3) For everyone else -- $295 list price, marked down by NeXT-connection to about $240-$250 probably. This includes manuals, support, a U.I. that makes installation and maintenance (if you go between home and work with one NeXT) of your SLIP link trivial.

This first version of SLIP will support dial-up, UUCP, modem mixes, etc., and (if they have time) will have some form of header compression. Future versions will up the compression and possibly go to PPP.

If you are interested in more information write:

slip@marble.com

This is real. It is really happening at last!

Statistics For The NeXT

Philip McDunnough

A number(large) of people have requested information regarding a remark I made about running New S on my 040 cube. I can't possibly answer everyone (sorry), but perhaps this will help.

S, and its newer version New S, is a Bell Labs product. It is a complete statistical, data analysis, graphics' language for analyzing a wide variety of data. It is also a programming language which interfaces to C, Fortran and Unix in a very natural way.

A good idea about S may be obtained from the book The (New) S Language by Becker, Chambers and Wilks. This is published by Wadsworth & Brooks/Cole.

S can be used to handle simple well-defined statistical problems which are often analyzed using "canned" packages such as Systat, SAS, SPSS, etc... However, the strength of S lies in its adaptability in creating new S-functions which can then be used to create others and so on. Thus, the language is a living and exponentially growing statistical environment. New S-functions appear regularly, and are typically placed on the public S-archive. These functions allow the user access to the latest methodology for handling statistical analyses. Virtually every area is covered. S (New S) is the computer language/environment of the statistical community.

As S (New S) is a Bell Labs' product, users should contact AT&T's software sales. There is a commercial binary version available from Statsci in Seattle. This version adds some time series functions (beyond those which come with New S) and graphics' capabilities, such as rotating 3-d plots and brushing. It is also commercially supported. Unfortunately, I do not believe they have ported S+ (the name of the product) to the NeXT yet.

However New S, which is very rich, has been ported to the NeXT by Doug Bates of the Department of Statistics in the University of Wisconsin. It is a very solid port and has drivers for all sorts of terminals (including an X11 one!), tektronics,etc...Multiple sessions are possible and of course there is a Postscript driver, which allows viewing plots,etc...via the viewer.

I highly recommend this package. It is first-rate software, and deserves to be on the NeXT. I hope this answers some of your many questions. I hope to see S-functions emanating from stations and cubes everywhere!

Philip McDunnough
Professor of Statistics
University of Toronto
philip@utstat.toronto.edu

Christmas In May?

frosty@spandex.nomefc.com (Happy Holidays)

Editor's Note: I now what time of year it is, but I thought you would enjoy this.

'Twas the night before Christmas, and throughout the net,
not a modem was chirping; (It wasn't mail-hour yet).
The peripherals down and backed up with care,
In hopes that St. Echo soon would be there.
The grad students home all snug in their beds,
with hi-res dreams abuzz in their heads.
We Sysops lounged by the terminal's glow,
With occasional bursts of RF snow.
When from the hard drives there came such a clatter,
To the consoles we sprang to see what was the matter.
The monitor cleared, then flashed red and green,
as we hunched in our chairs around the machine.
When what to our wondering eyes should appear,
but VGA graphics of a sleigh and reindeer,
with a bitmapped driver, a lively old fellow,
I knew right away it must be St. Echo.
Faster than mnp his packets they came,
and he whistled and shouted as he called them by name:
"Now, Arpa! now, Bitnet! now, Opus and D-Comm!
On, CC:Mail and Fido and SEAdog and TComm!
Over Watts and Pursuit, via long-distance call,
Now hack away, hack away, hack away all!
As fast as the switching that sends them about,
When they meet with a BUSY, change to "host route",
So onto the mailer, and protocol sync,

when the RD and SD lights ceased to blink.
There off the screen, I saw a reflection,
and turned 'round to look in the other direction.
Right there behind us, amidst the tech-toys,
Had appeared St. Echo, with not even a noise.
Wearing a grimy red jumpsuit from his feet to his beard,
None but a techie could look that weird.
Odd bits of surplus hung out of his sack,
that bulged at odd angles slung over his back.
His eyes did twinkle, though somewhat bleary,
from staring at monitors, yet still quite merry.
the corners of his mouth were turned up in a <grin>,
and a scraggly grey beard hung down from his chin.
A '486 portable in his left hand was held,
and a cellular modem was strapped to his belt.
I <smile>d to see him, this overweight gnome,
he settled down by the CP, as if it 'twere home.
A flip of the toggles, and a tug on his beard,
soon showed us that he was not to be feared.
He spoke not a word, but went straight to work,
filled all empty sockets, then with a swift jerk,
replaced a few boards inside the machine,
turned it back on and checked it out clean.
The screen cleared once more, flashed green and red,
as he faded from sight he (wave)d and said;
"Keep the net singing, and I'll always be near,
Merry Christmas to all, and a Happy New Year!"

Stone Design Demo's

Andrew Stone - Stone Design

Interest to demo DataPhile, our EveryMan's flat file database, which can store pictures, sounds, text, numbers, money, dates, booleans, etc., and Create, our high end color PostScript drawing program, which uses the intuitive metaphors of TextArt to specify shadows, fills, skews, rotations etc. of arbitrary shapes, has been overwhelming in the first 10 hours.

I will place the demos in the archives; Create doesn't save or copy [but you can Print->Save], DataPhile only allows 25 records per database. [but you can have as many databases as you want].

To receive a free week of the enabled version, just email me for a temporary registration number [Specify which or both].

Now, excuse me while I climb up onto this cyber soapbox. There. Whoa! I didn't realize there were so many of us!

What is Beta Software? What is Version 1.0? What is Software? The bottom line is: software is a process. What we call Beta at Stone Design is often times sold as 1.0 or 2.0 by other firms. Alas, we are cursed because we are perfectionist computer science types; always doomed to one more compile, one more tweak, one more feature.

andrew
andrew@stone.com

TopDraw Demo Response

John Stannard

Since I just received my March (marked April on the mag) NeXTWORLD today, and Media Logic's ad said the offer expires today, I thought I'd call and see if I could squeeze under the wire. (They said OK) But the lady happened to mention something interesting:

She said they were expecting approx. 500 returned cards for the free demo (won't Save), but had received 1600 inquiries! And she also mentioned that since I was going to send in my OD, I'd probably get my demo back _faster_ than if they had to send me floppies--they're somewhat backed up due to the large interest.

(Other vendors ought to take note of the rising number of NeXTers who are _eager_ to see what you have in store...)

Stuart

Scott Hess

Since I've been getting lots of mail on this topic (something like a message or two per day this week :-), I've decided to write up the problem and submit it to the net. This will be my reply to future mail messages, so don't expect much more out of me . . . if anyone notes glaring misconceptions or the like, drop me a line.

Problem (it's not a bug):

Stuart does not apparently correctly handle windows larger than 24 lines.

Reason:

The termcap file on the NeXT has been changed to the latest BSD reno termcap. The sequence is now reads something like 'is=\E[1;24r'. This sequence is sent early and often by the subshell, and basically tells Stuart to set the scrolling region to lines 1-24, ignoring the rest.

Solution:

Change the entry back. The sequence '\E[r' is exactly equivalent to '\E[1;24' for all 24-line vt100s. I'm not at all sure why the change was made in the first place - apparently with intent to make terminal emulators out there "appear" to break.

There are two ways in which this fix could be applied. One would be to edit the global /etc/termcap file. I think this is the best solution, because it is only a positive effect.

Another method which can be applied by mortal users would be to copy out the section of the file related to vt100 (right there at the top of the file), change the affected sequence, and then place it somewhere in your personal directory (I like ~/.termcap). Then, 'dwrite Stuart Termcap ~/.termcap', or add a line 'setenv TERMCAP ~/.termcap' to your .cshrc.

Future:

I've had requests to add a hack to Stuart to "fix" this problem. Apparently someone at NeXT added such a hack to Terminal - I'm not sure. The problem is that such a hack is non-trivial in its effect on the subshell environment. Simply watching for '\E[1;24r' can have adverse effects on elaborate programs such as emacs. In fact, the only programs it would be fully safe for would be command-line shells. That's the only reason I'm really even considering the hack - most people spent lots of time in their shells.

This hack will be a preferences option, just in case.

Another possibility is that I'll plan to support more of the xterm entry. In that case, the terminal type can be changed to xterm, which is correct ('is=\E[r...' starts that sequence). This would solve the problem entirely, without unsightly hacks.

scott hess
scott@gac.edu
Independent NeXT Developer
GAC Undergrad

From The Editor

David J. Bowdish

This has been an interesting month for NeXTer's.

NeXT is showing signs that it is willing to do what it takes to become a major force in the workstation marketplace. NeXT announced it's NeXTedge program which includes several training seminars that will be available around the country. A nationwide service network agreement was worked out with Motorola which will provide faster repair times.

NeXT sales reached 8,000 units in the first quarter without it's full lineup of computers available yet; or a complete distribution system. 31% of NeXT's sales were foreign, 16% in the Asian market and 15% in Europe. When the Kanji NeXT's become available in early 3rd quarter, sales of NeXT's should increase sharply in the Asian markets. The purchasers of the Kanji NeXT's will be able to run an current application seamlessly (thanks to NeXT's operating environment). Sales in Europe are only now starting to get off the ground.

Back in the States, NeXT is carefully adding large, aggressive computer retailers. To ensure customer service and dedication to the product, the retailer must commit to certain minimum standards. Even Businessland is not exempt, each store must qualify individually to be a reseller for NeXT. A recent conversation with a VAR, revealed a sharp increase in "first-call" sales of the NeXT. Customers are becoming increasing interested in the NeXT.

Finally, we find that even after an admittedly rough start, **NeXT is still entirely debt free!** NeXT is going to be around for some time to come and we are only *seeing the beginnings* of what NeXT is capable of becoming in the workstation market.

Latest Product Listing

Conrad Geiger

Here are the products that are shipping for NeXT as of March 27th, 1991:

Business Productivity

Adamation, Inc.
Who's Calling?
Telephone tracking system with multiuser access, plus voice response; allows you to track calls, schedule meetings, keep yourself organized.
415-452-5252

HSD Microcomputers, Inc.
OCR Servant-Limited Edition
Optical Character Recognition software available to users only through the Services menu.
415-964-1400

Informix
Wingz
Spreadsheet with 3D graphics and powerful Hyperscript language.
415-926-6651
913-599-7330.

Lighthouse Design
Diagram!
A drawing package that makes creating org charts, labeled diagrams, etc. easy and which supports links to other NextStep apps.
1-800-366-2279
301-907-4621

Lotus Development Corporation
Lotus Improv
Next generation spreadsheet offering English formulas, multiple views on the data, linked tables, and presentation graphics.
617-577-8500

Stained Glass Software
Calendoscope
Networked day/week/month/year calendar for individuals and groups.
415-636-5100

Visual Understanding Systems (VISUS)
PaperSight Lite 1.2
A personal digital file cabinet.

PaperSight 1.2
A complete image management system which handles document scanning, viewing, organizing, searching, and archiving.
412-488-3600

WordPerfect, Inc.
WordPerfect for NeXT
The first true WYSIWYG version of this powerful, full-featured wordprocessor which dominates the PC word processing market.
801-225-5000

Connectivity, Communications and Emulation

Active Ingredients, Inc.
Communicae 2.0
A communication package that includes both DEC VT220 and Tektronix 4010/4014 terminal emulation, and standard file transfer protocols.
617-576-2000.

Cayman Systems, Inc.
GatorBox
Intelligent LocalTalk (TM)-to-Ethernet gateway; connects NeXT and Mac networks.Also, GatorShare, software for file sharing between Macintosh and NeXT Computers and GatorMail-Q, for linking Macintosh QuickMail users with NeXT e-mail system.
617-494-1999

Conextions, Inc.
3270Vision and **3270Vision Coax**
3270 emulation via TCP/IP over ethernet or via coax.
508-475-5411

Digital Instrumentation Technology, Inc.
FloppyWorks
Software that enables floppy drives for NeXT to read and write 1.44 MB Macintosh disks and to translate data between the Mac and NeXT machines.
505-662-1459

DataViz Inc.
MacLinkPlus/PC
File transfer and translation between the NeXT and Macintosh environments.
203-268-0030

Insignia Solutions, Inc.
SoftPC
DOS emulation at roughly the speed of a 10 Mhz AT. Supports CGA and EGA.
408 522 7600

Morning Star Technologies
Serial Port X.25/Daemon-S
Provides flexible X.25 connectivity via the serial port.
614-451-1883

Touch Communications, Inc.
WorldTalk/400
Provides access to other mail systems (e.g. IBM Profs, DecTalk) via X.400 gateway support.
408-374-1680

Transarc Corporation
AFS 3.0
A distributed file system for large, multi-location networks. There are no local or user dependencies in the system.
412-338-4400

Database and Information Management

Imagine, Inc.
MediaStation 1.5
Archival, retrieving and processing of multimedia information.
313-487-7117

INGRES
INGRES Relational Database Management System (v 5.0)
4GL, SQL and visual programming methods for relational database management.
415-748-3427

Toltec Human Services
UNIX MUMPS Version 3.1
Standard database and programming language for the interactive manipulation and storage of large volumes of medical and business data.
405-840-4254

Virginia Tech Library System, Inc.
VTLS InfoStation 2.0
A hypermedia information access and authoring system for electronic libraries.
1-800-HOT-VTLS
703-231-3605

Mathematics and Statistics

Halchin and Fleming
Orbit
Tool for exploring the dynamical system of periodic orbits.

Rubik Algebra
Uses Rubik's cube as a tool for exploring elementary group theory.

Spring
Animates motion of a spring with an attached mass; for exploring differential equations.

Groups
Description of mathematical objects known as groups.
217-348-0917

Triakis, Inc.
DAN-The Data Analyzer
Interactive data analysis system with 2D plotting support.

Math++
C-language numerical analysis source code math library.
505-672-3160

Wolfram Research, Inc.
Mathematica 1.2
A comprehensive software application for mathematical computation, symbolic manipulation, graphing, and high level programming.
1-800-441-MATH
217-348-0917

Medical

(see also Toltec under Database)

Toltec Human Resources
TranScriber 1.0
A NEXT network or NeXT to central service medical record transcription tool.
405-840-4254

Publishing and Graphics

(see also Lighthouse Design and WordPerfect under Business Productivity)

Adobe Systems Inc.
Adobe Type Library Plus Pack
Contains 26 popular typefaces, (plus sample pages and keycap access charts for easy access through the Digital Librarian.)
800-344-8335

Frame Technology Corp.
FrameMaker 2.0d
Technical publishing software, including word processing, graphics, page layout, equation editing and book-building tools.
408-433-3311

Media Logic, Inc.
TopDraw
Page-based graphics software providing object-based graphics, text processing, continuous tone painting and page layout.
213-453-7744.

MicroMaps Software
MapArt
A presentation quality set of EPS maps - world, continents and regions, and 22 country maps.
609-397-1611

RightBrain Software
TouchType
A power tool designed expressly for typesetting at large sizes where every character is important.
415-851-1786

Stone Design Corp.
TextArt
Easy, intuitive access to the full range of text effects Display Postscript makes possible.
505-345-4800

The Font Company
The Font Company Font Library
Over 1500 PostScript Type 1 format typefaces.
602-998-7964

T/Maker Company
Click Art
Nearly 400 illustrations of Encapsulated PostScript EPS artwork.
415-962-0195

Sound

Metaresearch, Inc.
SoundWorks 2.0
A powerful,.easy to use sound recording and editing program.
503-238-5728

Tools and Languages

Absoft Corp.
Absoft FORTRAN 77
Object Oriented FORTRAN compiler; fully compatible w/ NeXT's Interface Builder toolkit, allows programmers to add a graphical i/f to any FORTRAN program.
313-853-0050

ACUCOBOL
ACUCOBOL-85
VT-100 version of High 1974 /Intermediate 1985 ANSI COBOL standard.
619-566-3071

Adobe Systems Inc.
DisplayTalk
A development environment for Display PostScript programming.
800-344-8335

Highland Software, Inc.
Flexible License Manager
A package that allows a software application to be licensed on a concurrent usage basis rather than a per-computer basis.
415-493-8567

Motorola, Inc.
Macro Cross Assembler (ASM96000)
Simulator Programs 9SIM56000 and SIM96000)
Tools for DSP programmers.
512-891-2030.

OASYS
OASYS Native Compilers
OASYS Optimizing 680x0 Cross Compliers
OASYS Optimizing 88000 Cross Compilers
(C, C==, Fortran, Pascal available for each)
Highly optimized Fortran, Pascal., C and C++ compilers and cross compilers.
617-862-2002.

Objective Technologies, Inc.
OT Palettes:2.0
Custom palettes for IB. Smartfields, Chooser, MathPalette, and GraphPalette are currently available.
212-227-6767

Visual Understanding Systems, Inc.
PaperSight Developers' Toolkit
More than 70 code and data modules for image management.

Visus Voice Commander Toolkit
Advanced speaker-independent speech recognition toolkit.
412-488-3600

Young Minds, Inc.
Makedisc
CD-ROM formatting software for creating a CD-ROM disc image.
714-335-1350

Peripherals

Data Acquisition and Sound

Ariel Corp
DM-N Digital Microphone
High-fidelity stereo microphone with lab-quality data acquisition capabilities.

QuintProcessor
Five 27MHz DSP5001 ‘s on a single board for the cube. Pro-Port APAnalog I/) interface with 2 channels of 16 bit analog in and 20 bit analog out with programmable sample rates.
201-249-2900

Dazzl, Inc.
Model 16/12 Analog to Digital Converter
Data acquisition for 16 single ended or 8 differential channels; overall sampling rate of 200 kHz.
309-674-9317

IOtech, Inc.
SCSI1488/N
A SCSI-based IEEE interface plus software that lets a NeXT Computer control up to 14 IEEE instruments. The following require the SCSI 488/N:

Serial488/4
A 4 channel IEEE to serial converter.

Digital488/80
An 80 bit IEEE to digital I/O interface. DAC488PA digital to analog convertor in either 2 or 4 channel versions.

ADC488 A/D Convertors
Supports 16 single ended or 8 differential analog channels.
216-439-4091

Metaresearch, Inc.
Digital Ears
Audio input device and control software for entering and recording compact-disc quality sounds.

Digital Eye
Video input device and control software for capturing still and moving NTSC video images.
503-238-5728

Singular Solutions
A/D64x

Hardware and software for high-quality sound recording and capture.
818-792-9567

Fax and Data Modems

Abaton (Everex)
Interfax 24/96NX
2400 baud data and 9600 baud fax modem
1-800-444-5321
415-683-2226

Dove Computer Corporation
DoveFax
9600 baud fax modem and 2400 baud data modem.
1-800-622-7627
919-763-7918

Visual Understanding Systems, Inc.
Fax Modem VS-24
9600 baud fax modem that can vector call to a fax machine if busy.
412-488-3600

Scanners and Printers

Abaton (Everex)
Scan 300 G/S
An 8-bit scanner that scans halftones, line art, and grayscale images.
1-800-444-5321
415-683-2226

AGFA Compugraphics Division
ProSet 9400
A mid-range laser imagesetter that offers both true PostScript and PCL languages.

ProSet 9800
A high-speed laser imagesetter ideal for producing color separations.

SelectSet-5000
A fast and easy-to-operate color laser imagesetter.

StudioSet- 2000
A compact and versatile imagesetter that offers a variety of resolutions up to 2400 dpi.
(508) 658-5600

Canon U.S.A., Inc.
IX-30F Image Scanner
An 8-bit flatbed scanner with a maximum scan resolution of 300 dpi.
1-800-848-4123

HSD Microcomputer, Inc.
Scan-X Professional
An 8-bit grayscale, desktop flatbed scanner that supports resolutions of up to 1500 dpi.

Scan-X Color
24 bit true color scanner supporting up to 300 dpi for grayscale 24 bit color images and up to 2400 dpi for line art.
415-964-1400

Oce Graphics

OceColor
An Adobe PostScript, color printer that uses the latest thermal transfer technology, and supports the full range of PANTONE colors.
1-800-545-5445
415-964-7900

Visus, Inc.

Personal Page Scanner
Up to 3 legal pages per minute scanner.

Departmental Scanner
Up to 11" by 17" at up to 12 pages per minute.

Large Format Scanner
Up to 24 by 60 inches, up to 400 dpi.

Industrial Scanner
up to 2000 dpi resolution, accurate to .002 of an inch over 24 inches.
412-488-3600

Storage

The Cube Route, Inc.

Cube Route Hard Drives
Seagate Wren Hard Drives. 330MB, 660MB, 1 GB.
1-800-CUBE-RTE
617-344-6061

Dayna Communications, Inc.

DaynaFile
External disk drive that lets NeXT Computers read and write to MS-DOS and NeXT-formatted floppy disks.
801-531-0600

Digital Instrumentation Technology, Inc.

Cube Floppy Plus
External floppy that lest NeXT users read and write MS-DOS (720KB and 1.44 MB) disks, Mac (400K, 800K and 1.44MB) disks and UNIX disks.

Cube Floppy 2.9
External floppy that lest NeXT users read and write MS-DOS (720KB and 1.44 MB) disks, Mac (1.44MB) disks and (1.44 MB and 2.88MB) UNIX disks.
505-662-1459

EMAC

Metro CD
CD-ROM drive that also plays audio CD's. Metro DATP1.3 GB digital audio tape backup system.

Metro Series Hard Drives
in 170MB, 335MB and 670MB capacities.
1-800-821-0806, ext. 2155
415-683-2155.

Epoch Systems, Incorporated

Epoch-1 InfiniteStorage Server
Platform independent network server designed to handle the need for quick access times to large off-line storage.
508-836-4711

Microtech International, Inc.

Eclipse 1.2T
1 GB digital audio tape backup system.

Eclipse 50R
Removable hard drive. Eclipse CDPCD-ROM drive with dual SCSI ports and a universal input power supply.

Eclipse Series Hard Disk Drives
Ranging from 200MB to 1GB.
203-468-6223

Personal Computer Peripherals Corporation

JETSTREAM
A tape backup system capable of archiving up to 2.3 gigabytes of data per tape at speeds up to 14.4 megabytes/minute.
813 884 3092

Pacific Micro

PM 1.44
External SCSI floppy disk drive for data transfer between NeXT computers and both MS/DOS and Macintosh computers.

PM-HDE
External SCSI enclosure for 1 or 2 NeXT hard disk drives.
408-356-5001

Peripheral Land, Inc.

PLI SuperFloppy 2.8
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