
Administering NeXTstep Mail

by Nicholas W. Christopher

Electronic mail (email) is a very big topic. When you think of "email" you are already lumping together several things, the mail transport methods (mailers), the mail reading program, and the format of the letter itself. Unfortunately, no part of email is truly standard. There are hundreds of "standard" mail readers, scores of transport methods and a wide variety of letter formats.

Email under NeXTstep is pretty standard Unix email - with a few twists. I am not going to even try to give any sort of coherent description of Unix email, but I am going to try and explain what's unique about email under NeXTstep and some ideas about how to handle these special traits.

The Players

Again, the three things you need to consider when dealing with email are the transport method, the reader, and the format. Under NeXTstep each of these has a few facets worth noting.

The Mailer

Several programs come into play in transporting email under NeXTstep (sendmail, uucp, smtp...etc.). Most of them are fairly standard Unix, but sendmail has been tampered with, and if you know how life will be simpler.

The changes to sendmail were made to take advantage of NetInfo. Two basic changes to sendmail were made. The first was change was to how sendmail locates its configuration file. Traditionally sendmail locates its configuration file from either a fixed file location (/etc/sendmail/sendmail.cf) or from a command line argument (-Cfilename). But a change was made to sendmail to use NetInfo's locations/sendmail.cf property if this property is present. The value of this property is a path to a configuration file (look at the Examining the NetInfo Database section of the Administration manuals for more info). If you use one of the supplied configuration files this locations property can mean that sendmail will work properly right out of the box.

A second change was made to sendmail, traditionally sendmail looks at the aliases file (the aliases.dir and aliases.pag to be accurate), for mail alias information. In NeXTstep however, if NetInfo is running sendmail will look at the aliases directory in

NetInfo. This is convenient for the GUI die-hard, you never have to touch the alias flat files again. But, if flat files are your medium - rest assured they still work, you just niload them into NetInfo rather than run the more traditional newaliases program. I in fact, generate firstname_lastname aliases based on the password file and use niload to put them in NetInfo. An interesting note on niloading alias flat files, even the:include:filename directive works (more on this later).

The Reader

Mail.app is a fairly jazzy mail reader. It has a few lesser known features that can be useful. For instance, if you want to cc some one on a piece of mail but not let the actual recipient know about the cc you should use bcc (blind carbon copy). If you want to use a bcc simply hit command-7 from the compose window and type out the bcc address. Another useful feature is copying a letter from the header browser. How is doing a command-c on a selected item in the browser different than a command-c of the body of a displayed letter? You get the full mail header! If you ever want to know exactly how a letter was address or got to you select it in the browser, press command-c, then paste it into something like Edit.

One of the nice features of the Mail.app is its Addresses panel (command-A). Particularly in a middle to large size group this feature, if properly set up, will allow you to easily find a persons mail address. But, here again, a few tricks are needed to make this panel useful. Unfortunately this panel does not draw its information directly from NetInfo, but instead requires that a copy of the passwd and aliases files be placed in /LocalLibrary/Images/People. NeXT provides a program to nidump both these files (/usr/bin/mailDBupdate) which if run nightly will populate the Users and Groups areas of the Addresses panel. However, you might want to do some post processing on the resulting aliases and passwd file. mailDBupdate fails to handle at least two cases properly. Consider a simple alias like nick_christopher:nwc@gun.com where would you want this alias to appear? Under Users or Groups? Mail.app will place it under Groups because the right hand side of the alias (nwc@gun.com) is not a local user. An easy fix to this is to add the line:

```
nwc@gun.com: : : : :
```

on to the end of /LocalLibrary/Images/People/passwd. Adding

that line dupes Mail.app into seeing it as a local user and placing the alias under the users area where you want it.

Another place mailDBupdate does a poor job is with aliases based in the:include:filename directive. The entry simply appears, verbatim, in the Groups area of the Addresses panel. My suggestion here would be to remove these entries or expand them.

The Format

NeXTstep's mail format is fairly standard. The main thing about it worth noting is how it handles multimedia messages. NeXTstep handles multimedia mail by taring all the included files. Compressing the tar file and then uuencoding the compressed tar file. If a letter has a Next-Attachment: directive in its header then its contents will be one long uuencoded file as described above. The nice thing about the above format is that it is composed of UNIX "stock parts". In fact Tim Reed provided me with scripts that will work on any UNIX box and will compose and decompose NeXTstep mail. But the format has its draw backs as well, namely its not MIME. MIME is a growing standard for multimedia mail, and while not as simple or more powerful, it is more widely recognized.

Tools & Methods

I have mentioned quit a few scripts and methodologies in this article. If you are interested in following up on any of them I am more than willing to provide copies of the scripts (warning some are written in Perl) and the documentation on them as well as how I use them.

NeXT in the News

by Eric Rosenthal

RISC Ports Planned For NextStep, Paul Krill, *Open Systems Today*, January 4, 1993, p. 3. NeXTSTEP will be ported to several RISC platforms and produce its own RISC workstations.

Fierce OS Battle To Benefit Users, Mitch Wagner, *Open Systems Today*, January 4, 1993, p. 8. "The major contenders will include IBM OS/2, Microsoft Windows NT, Sun Microsystems Solaris, the Santa Cruz Operation Unix and Next's NextStep."

Net Interoperability, Paul Kapustka, *Open Systems Today*, January 4, 1993, pp. 20, 22. Unix vendors will use PC-based offerings from Sun and NeXT to promote Unix for downsizing.

OSes Key To Hardware Success, Paul Krill, *Open Systems Today*, January 4, 1993, pp. 30, 33. NeXT will select a RISC platform for its hardware product and consider porting NeXTSTEP to other RISC platforms.

Iomega Intros Two Drive Offerings, Mitch Wagner, *Open Systems Today*, January 4, 1993, p. 34. Iomega's MultiDisk 150 for platforms including NeXT.

Lee Bruno, Ports For Document Management Package, *Open Systems Today*, January 4, 1993, p. 38. BOSS Logic to port its Document Manager to Microsoft Windows clients and Unix servers.

A First Look At Solaris 2.1's NIS+, *Open Systems Today*, January 4, 1993, pp. 49, 58. NeXTSTEP among environments not yet supporting NIS+.

A Founder of Next Resigns; Switch to Software Is Seen, *The New York Times*, January 9, 1993, pp. 41, 43. NeXT co-founder Richard A. Page, general manager of hardware, resigns. The departure increased speculation that the company was moving from a hardware company to a software company. Also, NeXT will end its support for *Nextworld*.

Untitled item in Pipeline, *InfoWorld*, January 11, 1993, p. 13. Tech Pool Software's Transverter Pro can import graphics from NeXT and other systems to Macintosh or Windows.

NeXT, HP mull Next Step deal, *PC Week*, January 11, 1993, p. 3. In separate discussions, NeXT and Hewlett-Packard are discussing NeXTSTEP as an alternative operating system for its PA-RISC workstations and the use of PA-RISC by NeXT.

Researchers, statisticians are going by the numbers, Larry Stevens, *MacWEEK*, January 18, 1993, pp. 59, 61. Introduction to Macintosh statistical analysis packages mentions NeXT among platforms supported by SAS System.

RAID Storage System Boosts Performance, Capability, Mitch Wagner, *Open Systems Today*, January 18, 1993, p. 44. Unbound's enhanced RAIDstor-T3 supports NeXT and other systems.

Versant brings object DBMSs to NeXT and OS/2, Karen D. Moser, *PC Week*, January 18, 1993, pp. 55-56. Versant Object Technology's Versant ODBMS for NeXT.

Key Executive Resigns from Next Computer (item in News Digest), Norvin Leach, *PC Week*, January 18, 1993, p. 119. Co-founder Richard Page, a key hardware engineer, leaves NeXT. Analysts explain executive departures as part of the transition from a startup and a reorganization by van Cuylenberg.

Short Takes (item in News Shorts), *Computerworld*, January 25, 1993, p. 6. Former sales vice president at NeXT, Todd Rulon-Miller, named president of Software Alliance Corp., a banking software vendor.

James Daly, Next to cool black box, push OS, *Computerworld*, January 25, 1993, p. 93. Analysts expect NeXT to emphasize NeXTSTEP over hardware. The hardware sales strategy has

not been successful, and even a RISC workstation planned for May may not help in a commodity hardware market. NeXTSTEP offers more of an advantage than the NeXT hardware, with its interface and development tools. "NextStep today delivers the kind of object-oriented environment that potential rivals such as Microsoft Corp.'s Cairo or Apple Computer, Inc. and IBM's Taligent systems cannot guarantee until mid-decade." The delayed NeXTSTEP 486 will run on two million 486 PCs, although they would require expensive hardware upgrades and software licenses. NeXT has used up much of its funding and another executive, hardware manager and co-founder Richard A. Page, left this month.

Letter, Ben VonZastrow, *BYTE*, February 1993, p. 20. Criticizes Nextstation configuration used in November workstation comparison.

Letter, Eric M. Hall, *BYTE*, February 1993, p. 28. Criticizes Nextstation configuration used in November workstation comparison.

Lotus Improv for Windows, *BYTE*, February 1993, pp. 52-53. "Two years ago, Lotus Development introduced Improv, a radically different kind of spreadsheet. The problem with Improv was that you needed a Next computer to run it—which meant that most of us couldn't."

Cindy Castillo, Document Management for the Next Computer, *BYTE*, February 1993, p. 239. Request for information about document management software.

NeXT steps up corporate push, marketing alliances (item in Executive Brief), *Object Magazine*, January-February 1993, p. 16. NeXT announces sales to Mobil Oil and Chrysler, a joint marketing agreement for Auspex NFS network servers, and joint marketing and development agreement with Data General.

ObjectStore, David M. Siegel, *Object Magazine*, January-February 1993, pp. 82-85. Review of Object Design Inc.'s ObjectStore.

Utilities, *Object Magazine*, January-February 1993, p. 91. Product announcement for Metrosoft's MetroTools.

Object-oriented environment, *Object Magazine*, January-February 1993, p. 91. Product announcement for NeXTSTEP Release 3.0.

NeXT to Compete with NT?, John D. Ruley, *Windows Magazine*, February 1993, p. 32. Jobs began a demonstration of NeXTStep-486 by saying "We're here to talk about the only significant competitor to Microsoft we see on the horizon. And that's NeXTStep." He ended it by saying "I've got MS Windows to boot if I want to remember how well off I really am."

Unix Comes Along Again, Robin Raskin, *PC Magazine*, February 9, 1993, p. 30. "The underdog among the many contenders for Intel hearts is NeXTStep 486, a version of NeXT's Unix that

runs on Intel architectures. It's the only one of the bunch that relies on the Mach 3 kernel instead of the AT&T kernel."

Announcing SR version 2.0, *ACM SIGPLAN Notices*, February 1993, p. 3. The SR (Synchronizing Resources) language is available for many platforms, including NeXT.

Concurrent Object Oriented 'C' (cooC), Rajiv Trehan, Nobuyuki Sawashima, Akira Morishita, Ichiro Tomoda, Toru Imai, and Ken-ichi Maeda, *ACM SIGPLAN Notices*, February 1993, pp. 45-52. The cooC concurrent programming language is a "superset of C, C++ and Objective-C."

Introductory programming in C++?, Dr. James M. Coggins, *C++ Report*, February 1993, pp. 34-37, 50. Quotes comp-lang.c++ posting by David Masterson: "GCC 2.0's supposed support of Objective-C++ ought to have some interesting effects on the industry."

NeXTStep 3.0 as a Corporate Development Environment, *CASE Trends*, February 1993, pp. 21-22, 24-26, 28. "Looking for an easy to use, standards based, interoperable, object oriented operating system, supporting UNIX and capable of running on Intel processors? Or perhaps you require a highly integrated object oriented development environment shipping with a large number of extensible objects targeting business applications. With NeXTStep 3.0 from NeXT you can have both."

The Pundits, Brian Camenker and Marianne Adams (BCS) *PC Report*, February 1993, pp. 25-26. *InfoWorld* editor-in-chief Stewart Alsop (jointly interviewed with Bill Machrone) says object-oriented development environments will become "useful and required when the underlying system software is itself built on an object-oriented theory" like PenPoint or NeXTSTEP.

Groceries from hell, Raymond Rank, *SunWorld*, February 1993, p. 116. "If NeXT could sell just the software it'd be nice to have NeXTstep on SPARC."

Pentium will need optimized software, Tom Quinlan, *InfoWorld*, February 1, 1993, p. 3. Intel wants software developers, including NeXT, to recompile products for Pentium to get performance advantage over 486.

68040 and Fading Fast (item in Notes From the Field), Robert X. Cringely, *InfoWorld*, February 1, 1993, p. 90. Intel to manufacture 66 MHz 486DX2 for NeXT, which will have a Pentium socket.

NeXT loses more top executives, Eric Lach, *MacWEEK*, February 1, 1993, pp. 34, 36. Two more vice presidents, Todd Rulon-Miller (sales) and Mike Slade (marketing) leave NeXT. Peter van Cuylenburg says the company is changing from a workstation manufacturer to a system software vendor. Slade, now vice president of special projects at Asymetrix Corp., is among those questioning the new strategy, observing that system software is a tougher market than hardware. NeXT reported a profit for the

fourth quarter, but analysts said interest payments to Canon would make it a loss if included.

Next's First Profitable Quarter (item in Industry Watch), *Open Systems Today*, February 1, 1993, p. 21. NeXT Computer announces first quarterly operating profit (between \$500,000 and \$1 million) in fourth quarter and 1992 revenue of \$140 million.

Low-End Price Bar Continues To Fall, Paul Krill, *Open Systems Today*, February 1, 1993, pp. 37-38. Survey of low-end workstations includes NeXT products.

Rough road lies ahead for IBM management, Robert L. Scheler, *PC Week*, February 1, 1993, p. 14. "'IBM is a hardware-driven company in a software-driven decade,' said Steve Jobs, chairman of NeXT Computer Inc. in Redwood City, Calif. 'There is no one at the senior level of IBM who understands software.'"

Rumor Central, *PC Week*, February 1, 1993, p. 122. "One thing the Katt can't give out is the name of the next NeXT OS. By the time NeXT's forthcoming box comes out, it will be called NextStep Intel or NextStep PC—reflecting the fact that it works with Pentium, too. Jobs and Co. are still deliberating about the final name, but the original NextStep 486 moniker is out now that Andy Grove has seen the same program work on a Pentium box."

The kettle's a-boil (item in Inside Lines), *Computerworld*, February 8, 1993, p. 86. Hewlett-Packard confirms rumors of negotiations about port of NeXTSTEP to PA-RISC. Willem Roelandts, vice president and general manager of HP's computer systems organization, says Jobs disagrees with HP's requirement that NeXTSTEP comply with OSF DCE and Object Management Group's CORBA.

Next nixes hardware for software, Cate Corcoran and Mark Stephens, *InfoWorld*, February 8, 1993, pp. 1, 75. NeXT to become a software company, dropping its hardware line and laying off up to 60% of its employees. Analysts were enthusiastic about the shift.

NextStep 486 late beta scheduled to ship in May, Cate Corcoran, *InfoWorld*, February 8, 1993, p. 3. NeXTSTEP 486 beta due for NextWorld Expo on May 25.

Next to Sell Hardware Side And Focus on Its Software, Lawrence M. Fisher, *The New York Times*, February 10, 1993, p. D7.

Next KO's workstation line, *Computerworld*, February 15, 1993, p. 2. Jobs announces NeXT restructuring as software supplier, including dismissal of 280 of 536 employees. The hardware business will be sold to Canon, Inc. Analysts believe it is unlikely NeXT will take over the object-oriented development market, with competition from other operating systems and development tools, but customers do not seem worried by the shift.

Bridgite too far (editorial), Bill Laberis, *Computerworld*, February 15, 1993, p. 26. "For company founder Steve Jobs, there are two lessons [from Next's departure from the hardware business]: First, it's really hard to have two independent successes in the computer industry (Apple being his first). Second, the inexorable force of hardware standardization has a downside that excludes innovative alternatives from the marketplace."

Users hail Next's move toward software, Cate Corcoran and Jeanette Borzo, *InfoWorld*, February 15, 1993, p. 3. NeXT users are positive about shift from hardware to software.

Cate Corcoran, NextStep 486 is mission critical for Jobs and Next, *InfoWorld*, February 15, 1993, p. 86. Interview with Jobs, "to find out whether the company with 40,000 users has what it takes to become a first-tier software company."

NeXT exits hardware market, lays off 280 of its employees, Jon Swartz, *MacWEEK*, February 15, 1993, p. 48. NeXT confirms it will sell its hardware operations to Canon Inc. for debt waiver.

About-face: Next Drops Its Hardware, Paul Krill, *Open Systems Today*, February 15, 1993, pp. 1, 81. NeXT Computer will leave the hardware business to concentrate on software, starting with the NeXTSTEP 486 and expected RISC ports. NeXT's first quarterly profit was small and sales growth was below expectations. The company will be renamed as NeXT Inc. and will sell its hardware design center and factor and reduce its work force from 530 to 200. NeXT will concentrate on its system software, development tools, and ObjectWare. NeXTSTEP for existing workstations will be updated for at least 18 months and Motorola is expected to take over hardware support. Users seem unconcerned about the shift. NeXT has sold 50,000 workstations, but was sixth in 1992 workstation shipments.

HP Tools Showcases Key Object Spec, *Open Systems Today*, February 15, 1993, p. 5. ParcPlace Systems's VisualWorks supports NeXT.

What's Next? (letter), George Pajari, *Computerworld*, February 22, 1993, p. 32. NeXT is hurt by "utter disregard of open systems standards."

New tools alter development strategy, *Computerworld*, February 22, 1993, p. 61. NeXT to demonstrate tools at Software Development'93.

Go GUI? Well, maybe not, *Computerworld*, February 22, 1993, p. 74. "If your job really calls for either Object Linking and Embedding, IBM OS/2's object-oriented document management or Next, Inc.'s Display Postscript, buying the exotic, high-horsepower hardware you must install to run a GUI could justify the stiff price tag."

DTP for Next OS provides format, layout examples, Jeanette Borzo, *InfoWorld*, February 22, 1993, p. 18. Pages Software Inc.'s Pages.

Canon software gives Mac control of NeXT-based image server, *MacWEEK*, February 22, 1993, p. 30. Canon U.S.A. Inc.'s OPI Server Software.

NeXT's next step: Software path won't be quick fix, Jean-Louis Gassée, *MacWEEK*, February 22, 1993, p. 46. NeXTSTEP 486 is late and will require expensive hardware. NeXT could make deals with Novell or IBM.

Rumor Central, Spencer F. Katt, *PC Week*, February 22, 1993, p. 142. "NeXT is getting out of the software as well as the hardware business and going into the pizza business in the valley."

Improv: A Better Spreadsheet, Michael J. Miller, *PC Magazine*, February 23, 1993, pp. 81-82. "Compared with the NeXT version of Improv, the Windows version is more robust, has better programming features, and is easier to use."

Untitled item in Nanobytes, *BYTE*, March 1993, p. 24. Dolphin Server Technology to sell NeXT workstations as clients for its Unix servers.

The Unix Mail Story, Howard Eglowstein and Ben Smith, *BYTE*, March 1993, p. 148. NeXT's listed among elaborate Unix user agents.

HP and Next in Discussions (item in Industry News), *Unix-World*, March 1993, p. 16. Next discussing NeXTSTEP port to PA-RISC and use of PA-RISC chips in Next hardware.

Next Meets X, Andrew D. Wolfe Jr. and Edwin C. Perkins Jr., *UnixWorld*, March 1993, pp. 101-102, 104, 106. Review of three X servers for Next: White Pine Software Inc.'s Exodus, Cub'x Systemes S.A.'s Cub'X Window, and Pencom Software's Co-Xist.

The Next Step in Slide Creation (item in New Products), *Unix-World*, March 1993, pp. 123-124. Product announcement for Research Design Resources Inc.'s @image.

Dere's Gold in Dem DSPs, Robin Raskin, *PC Magazine*, March 16, 1993, p. 30. Analysis of DSP chips for PCs mentions NeXT.

Gotham User's of NeXT Affirms its Support of the Changes at NeXT

In recognition of the magnitude of change in NeXT's transition to a software company, and in light of our role as a users organization, the board of directors of GUN (Gotham Users of NeXT) felt it important to publicly state the group's position.

A motion was put before our members asking if they supported the changes at NeXT.

The unanimous reply, was yes, the members of GUN support NeXT in its transition.

Therefore, Gotham Users of NeXT would like to formally state that we support NeXT's decision to change its focus to a software company.

Comments from our members:

"I hope there will be more people using NeXTstep in the future which will create a great demand for developers like us."

"YES YES YES YES YES"

"We are average business people — who just happen to use a NeXT as our only computer...We are holding our breath until NeXTEXPO. We expect to be happy about it all by then... we hope."

"It takes too much money to produce hardware these days. You always have to have the fastest box, and there is always a faster box a week later from someone else. NeXT has great software (I must admit I liked their hardware as well), they should run with it.

While supporting the change, some voiced concern:

"But I'm worried. NeXT is a company right now without a product. And rumors are flying around about NeXT not being able to get the drivers right for PC peripherals, possibly leading to another delay in delivery of NS 486."

"I have mixed feelings, but to put it into a simple Yes or No I vote - Yes, I support NeXT's change.

"...we are not exactly happy about any of these developments."

"Well, they better not slip anymore software ship dates credibility will be at a premium already!"

Mesa available on NeXTSTEP for Intel!

from the Internet

Athena Design is announced the first shipping application for NeXT hardware and NeXTSTEP for Intel Processors. Mesa, the standard NeXTSTEP spreadsheet, version 1.4 is now available in "Fat Binary" form. This enables a single commercially distributed application to run on both Motorola and Intel based hardware platforms. Version 1.4 also includes Lotus .wk1 write, SYLK read and write, enhanced object libraries, enhanced scripting, backsolver functions, matrix math and more. It is available via anonymous ftp from athena.com.

About GUN...

Board

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The BULLETin

The GUN BULLETin is produced monthly (more or less) using *FrameMaker* 3.0 on a NeXT computer, with headlines created by Adobe *TouchType*. Text is written directly in *FrameMaker*, with *WordPerfect*, or imported from other platforms (ugh!).

Pulled From The Net

Pulled From The Net is a service designed to provide a synthesis of important NeXT-related Usenet information to those without network access and to those too busy to keep up with Usenet. Usenet, or Net News, is a bulletin board service available free of charge to anyone with Internet access. It includes hundreds of special-interest posting areas (groups), read by hundreds of thousands of people across the planet.

All GUN members receive *Pulled From The Net* with their membership. It is emailed to those capable of reading Next Mail as soon as it is available; ASCII copies are sent to those capable of reading only ASCII mail; paper copies are sent to everyone else, along with the newsletter.

Pulled From The Net tracks the following groups:

- comp.sys.next.misc**
Miscellaneous NeXT related information
 - comp.sys.next.announce**
NeXT related announcements
 - comp.sys.next.admin**
NeXT administrative information
 - comp.sys.next.programmer**
NeXT programming information
-

Discounts

Many vendors are willing to give user group members discounts on their hardware and software. GUN does everything possible to ensure that its members have access to these savings. Every month, GUN compiles a list of currently available discounts. If you are interested in an unlisted item, write to discounts@gun.com or call GUN at 718-260-9848 and ask for the person in charge of group discounts. If possible, we will add the item to the list. Vendors are encouraged to contact GUN to participate in this program.

Membership & Sponsorship

Individual Dues

- \$25 per year (tax deductible)
- newsletter
- email alias and inclusion in group email list
- eligible for group discounts (contact Ed Wright)
- eligible for individual UUCP services
- eligible for individual Internet connectivity
- NeXTWORLD discount

Corporate Sponsorship

- \$100 per year (tax deductible)
- newsletter
- email alias and inclusion in group email list
- employees are eligible for group discounts
- eligible for corporate UUCP services
- eligible for corporate Internet connectivity
- employee NeXTWORLD discount
- sponsorship is recognized in every issue of the newsletter

GUN Sponsors

Corporate Benefactors (\$1000 +)

Organizations who have contributed material or equipment:

Athena Design

Mesa

BoxHill Systems Corp.

760 Mb Hard Disk Storage System for GUN Archive Server

Electronic Directions

use of facilities for general meetings

Marble Associates, Inc.

Consulting Services, Marble Teleconnect communication software, Designer Labels labeling software

Stone Design

DataPhile database software, Diagram!, Create, and TextArt

Telebit Corporation

T3000 Modems, NetBlazer Router

Uninet Peripherals, Inc.

SLAT Adapter

Corporate Sponsors (\$100 – 1,000)

Organizations who have contributed \$100 or more this year:

AGS Informations Services, Inc.
American General Information Services, Inc.
Charles River Computers
CS First Boston (Japan) Limited
Custom Word Processing, Inc.
Executive and Technical Recruiters, Ltd.
Frame Technology Corp
Light Printing Co., Inc.
NorthStar Technologies, Inc.
Nova Works Computer Systems, Inc.
Objective Technologies, Inc.

Communications

Individual Email

GUN maintains a list of all members who can be reached via e-mail. All mail sent to gun-members@gun.com is redistributed to everyone on the list. In addition, GUN assigns an alias to every member of the list making it possible for that person to be reached by sending mail to Firstname_Lastname@gun.com.

- Eligibility:** all dues-paying members
Cost: included in membership
Timetable: available immediately
-

Individual UUCP

GUN maintains a server connected to the Internet. UUCP service allows members' machines to connect to this host to send and receive email. Mail from the outside can be addressed to user@gun.com. Mail you send appears to originate from the gun.com domain, and is addressed as if you were on the Internet (i.e., user@next.com). Mail volume is not limited. A GUN volunteer will help you set up and maintain the UUCP connection.

Accounts will be given on a first-come, first-served basis. Once our current maximum capacity is reached, we will need to purchase additional lines and modems. This could cause a slight delay in obtaining service.

- Eligibility:** All dues-paying members
Cost: \$10/month
Timetable: 2,400 - 57,600 bps (v.22, v.32, v.32bis-v.42 & v.42bis)
– available immediately
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Individual Internet Connectivity

The gun.com domain is a wide area network (WAN). Machines are connected via the Serial Line IP protocol (SLIP). Any machine on the network can connect to any other as if it lived on the local ethernet, and can share resources, mount each other's file systems, etc. Becoming a member of the GUN WAN gives you unrestricted access to all Internet resources, including mail services, netnews (with thousands of special interest groups), hundreds of archive servers, Archie (a database of software/documents stored on the archives), library card catalogues, the Internet White Pages (X-Windows-based email directory service), and value-added services (AP news feeds, stock market data, vertical market information, etc.). GUN maintains a local archive to mirror the most important NeXT-related sites in the world.

- Eligibility:** All dues-paying members
Cost: \$80/month
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- Timetable:** 2,400 - 57,600 bps (v.22, v.32, v.32bis-v.42 & v.42bis)
– available immediately
-

Corporate Email

Corporations can request either a corporate alias or ten individual aliases. The corporate alias allows an unlimited distribution of GUN mail within the organization. The individual aliases allow individuals to be reached by sending mail to Firstname_Lastname@gun.com.

- Eligibility:** corporate sponsors with e-mail access are eligible for this service
Cost: included in sponsorship
Timetable: available immediately
-

Corporate UUCP

Identical to Individual UUCP. Limited to ten employees.

- Eligibility:** corporate sponsors with e-mail access are eligible for this service
Cost: \$15/month
Timetable: 2,400 - 57,600 bps (v.22, v.32, v.32bis-v.42 & v.42bis)
– available immediately

Accounts will be given on a first-come, first-served basis. Once our current maximum capacity is reached, we will need to purchase additional lines and modems. This could cause a slight delay in obtaining service.

Corporate Internet Connectivity

Identical to Individual Internet Connectivity.

- Eligibility:** corporate sponsors with e-mail access are eligible for this service
Cost: \$80/month, \$500 sign-up fee
Timetable: 2,400 - 57,600 bps (v.22, v.32, v.32bis-v.42 & v.42bis)
– available immediately
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GUN
Gotham Users of NeXT