NeXus Memo
NeXT User Society in Japan
NeXus Memo Vol. 1 Issue 2
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NeXus Memo:

The English version of the NeXus memo (this article) is formatted on a NeXT cube with two 330 MB hard disks using WriteNow and is printed on the NeXT Laser printer.

Editors: Mitsuhiro Kishimoto, Youichi Tanaka, Kaoru Ozawa, and Teruo Utsumi.

The correspondent Japanese version is produced on a NeXT cube with a 330 MB hard disk using XNeXT, kterm, nemacs and JLaTex (ASCII version) and printed on a LaserWriter II NTX-J which has Kanji fonts. The equipment is networked by ethernet and appletalk bridged with FastPath4.

1. About NeXus

NeXus is a non-profit organization to facilitate collaboration among members and to collect and exchange NeXT and NeXT related information. The main topics we cover are:

- •Easy-to-use, superior human interface
- •Integrated network environment for interpersonal computing
- •Graphical and multimedia applications
- •Advanced object oriented programming environment.

Our mother ship is a NeXT computer (NeXT station and cube). We, however, do not restrict our activities to NeXT. Other advanced high-tech computers also interest us. We are the first and only NeXT user group in Japan and Asia. One of our principal interests is using Japanese on the NeXT computer. We have local activities in mainly the Tokyo area and our meetings are open to the public. We place our newsletters on worldwide ftp sites to distribute them freely. NeXus is not affiliated with any company. Enthusiastic volunteers support NeXus. We welcome your contributions.

NeXus Activities:

Meetings:

Monthly meetings are held on the 4th Wednesday of each month from 7:00 p.m. The meetings are open to the public. The guest fee is 1,000 Yen, including the latest NeXus Memo.

The NeXT meeting will be held on November 28 at the ASCII Corp. Kurokawa office.

Newsletter:

We publish a monthly NeXus Memo and quarterly Newsletter. The NeXus Memo is distributed at every monthly meeting. The first Newsletter is expected to be published this fall.

Special Interest Groups:

We are planning to have several SIGs: Japanese, Mathematica, DSP, Graphics, Mach OS, Programming, Object oriented, Music, and others. If you are interested in any of these, please contact the executive staff.

Software Library:

Now we are preparing a publicly distributable software library on MO disks and Floppy disks.

Networks:

Currently we run mailing-list (NeXus@etl.go.jp) on JUNET. We are also trying to create a NeXT news group ’fj.sys.next’.

Another Activities:

We have seminars and symposiums, contact and exchange information with overseas user groups, contact with NeXT Computer Inc., Canon Inc. (distributor in Japan), and other third party developers are also our activities.

Executive Committee:

Kazunori Shioya:	President
Katsuhiro Ohashi:	Newsletter editor
Syuichi Tashiro:	Software library administrator
Yoshio Yamada:	SIG coordinator
Mitsuhiro Kishimoto:	International liaison

Membership:

A one year NeXus membership includes four issues of the NeXus Newsletter and 12 monthly NeXus memos. You can pick them up at monthly meetings or, if you miss any meeting, you can receive them by snail mail. The first fiscal year started in October ’90 and will end in September ’91. Members joining NeXus in the middle of the fiscal year will get back issues of NeXus Memos and Newsletters. You also get our software library with only shipping and handling charges. There are four types of memberships: regular, student, overseas, and corporate. An application form for regular, student, and overseas membership may be found at the end of this memo.

2. Minutes of the Organizational NeXus Meeting

Written by Katsuhiro Ohashi
Translated by Kaoru Ozawa

Date: September 26, 1990
Place: Computer Salon at Gotanda
Number of Attendants: 73

After the activities of the NeXus founding committees since June and two preparatory meetings, we finally held an organizational meeting under the chairmanship of Mr. Shioya. In spite of the rainy weather, there were more attendants at the meeting than we expected. The meeting was so popular that the conference room was full, and some attendants were forced to stand on the corridor. We apologize for lack of preparation. Because of the number of attendants, we had to cancel the planned self-introduction of attendants and other several subjects.

2.1. The Explanation of Purpose and Progress of NeXus

Mr. Sioya explained:
(1) the progress of NeXus establishment so far
(2) the draft regulations of NeXus

The Q & A on the above is as follows:

Q: Is the purpose of NeXus limited to NeXT or extended to NeXT related technology?
A: The purpose should be extended to NeXT related technology such as NeXTstep. We would like to define the purpose for NeXus broadly so that it can include future advanced technology.

Q: I heard that the name of "nexus" is used for (1) another computer company in Japan and (2) new NeXT magazine in US. Are there any legal problems, such as trademark infringement?
A: At present, we feel that the "NeXus" logo is unique because of its combination of upper and lower case letters. However, we are still investigating this issue. Mr. Kishimoto wrote a letter to the editor of the magazine. We have not received their reply yet. We think the use of "NeXus" will not be a problem assuming that the official name of our group is "NeXT User Group in Japan" and NeXus is just the abbreviated one. We received "NeXT on Campus (Fall 1990)" from NeXT Computer Inc. a few days ago. It contains the names and addresses of NeXT user groups all over the world. Our group is introduced on it. Our group has already been acknowledged.

Q: The NeXus regulations contain a provision that a resolution must be approved by the majority of the meeting attendants. Don't you think this provision is a disadvantage for members living outside Tokyo?
A: The founding committee has carefully reviewed this provision. However, since the meeting attendants can include those who submitted a proxy, we would like to keep this provision.

Q: How do we treat the rights on the copyrighted material announced at a workshop?
A: The regulations do not specifically address this issue. We feel that this question should be discussed in a SIG in the future.

Q: How do we treat a corporate member?
A: We will consider accepting a corporate member if the company agrees with the purposes of NeXus and wishes to support it. We assume that some companies dealing in NeXT related products may find enough merits to support our group because our group concentrates on NeXT.

After the above discussions, a few modifications of the draft regulation were made as follows:

(1) Article 7.2.3
The phrase "provided that the change of the regulations requires the approval of 3/4 or more meeting attendants" was deleted.

(2) Article 15
The phrase "a majority of valid votes" was changed to "3/4 or more of valid votes."

(3) Detailed Regulations, Article 5
The phrase "a student member fee: 4,000 Yen per year" was added.

2. The Establishment of "NeXT User Group"

Subsequent to the above discussion, the establishment of "NeXT User Group" was approved by a majority.

3. The Administration of "NeXT User Group"

3.1 The Executive Committee of NeXus

It is proposed that the members of the founding committee, as the executive committee of NeXus, administer group activities. The proposal was approved by majority.

Kazunori Shioya:	President
Katsuhiro Ohashi:	Newsletter editor
Syuichi Tashiro:	PDS library administrator
Yoshio Yamada:	SIG coordinator
Mitsuhiro Kishimoto:	International liaison

There was an explanation that practical activities required the volunteers other than the executive committee and the following members had already helped NeXus:

(1) Mr. Kazuyuki Inoue (Allied Telesys)
(2) Mr. Noriaki Yamagishi (ASCII)
(3) Mr. Kenichi Yanagise (KCS)
(4) Mr. Hironobu Suzuki (SRA)

3.2 Joining NeXus

It was explained that:

(1) the application form for joining NeXus was attached to the last page of handouts for the meeting. We asked attendants to fill out the form to apply for NeXus membership. As a result, 37 people filled out applications on that day.

(2) you can also apply for joining NeXus by posting FCSALON in NIFTY-Serve.

(3) you can also send the application by e-mail in MIX or JUNET (fj.sys.misc) by using the format posted on the networks.

3. New NeXT Line-up

Written and translated by Mitsuhiro Kishimoto

In the US, the NeXT Computer Inc. introduced new NeXTs on September 18. We were very worried about how much they will cost or whether shipment of color models slipped. Jobs, however, made great machines again.

Many articles already explained the new NeXTs. I will describe two kinds of things: very important feature can not omit and not written on press release.

In Japan, Canon missed the timing of their introduction. Canon will exhibit the new NeXTs on "INFO Japan" sponsored by Information Processing Society of Japan and DataShow '90.

Hardware of New NeXT

There are four types of NeXT computers. Three are newly introduced and the fourth is the old Cube upgraded to a 040. Two of the four models have the well known NeXT cube case. The others have a pizza-box case, which is call "Slab," similar to the SUN Micro System's Sparc Station. Both Cube and Slab have B&W and color versions. B&W Cube can upgrade by adding a "Dimension" graphic accelerator board. B&W station can not be upgraded, because B&W and color stations have different print boards.

All new NeXTs run three times faster than old 030 Cube. It is an over estimate to say that 25 MHz 68040 runs 20 MIPS, as Motorola claims. NeXT's rating 15 MIPS seems to be reasonable. Fifteen MIPS is two times faster than Apple's Macintosh IIfx, and the same as Sun Micro System's Sparc Station+. In a comparison of MFLOPS, NeXT is faster than Sparc Station+. For example, a demonstration of Mathematica on NeXT runs a little less than two times faster than Sparc.

The most exciting new comer is the 32 bit full color "Dimension" graphic accelerator board. It has Intel's 33 MHz i860 RISC chip and C-Cube's real-time graphic compression and decompression JPEG chip. In Japan, shipping will start after the second quarter of 1991. There was no announcement of RendarMan software. Does this delay shipment to sometime later next year?

One of the seven NeXT's breakthroughs, the MO disk drive, becomes an option only for Cube and not for Slab. The MO disk drive is slow and noisy. Anyway, we miss MO. Toshiba's 2.88 MB 3.5-inch floppy disk drive is the new standard. It also reads and writes 720 KB and 1.44 MB MS-DOS format.

Software of New NeXT

The B&W 100 MB hard disk type NeXT station is a rival of SMI's SLC. The 100 MB hard disk is too small to install all of the bundle software. NeXT computer Inc. decided to prepare two types of bundle software -- regular and extended. Regular does not include Quotations, Shakespeare, TeX, Interface Builder, Objective-C compiler, Emacs or AppKit. The forthcoming Japanese OS will have Kanji fonts (estimated at 40 MB or more). The 100 MB model is not enough to use Japanese on it.

Mathematica is bundled only for academic users. The Allegro Common Lisp is not. You can purchase CL3.1 $1,500 directory from Allegro. Newly bundled software includes FaxReader (OCR software), Installer, C++ compiler, AppInspector and Malloc debugger.

On the software side, Lotus's new spreadsheet program Improv is the most important new face debuted with bells and whistles. Lotus spends four years to make it. Lotus reinvents the spreadsheet. The people who purchase new NeXT or upgrade 040 by the end of this year can get free copy of Improv (a $695 value) in US.

The 040 upgrade will be start at next year in Japan. The people who ORDER before the end of this year will get the free copy. Again, there is no plan to localize Improv.

The Japanese NeXT OS is still vaporware. Canon showed the Japanese 2.0 OS at Datashow 90. They explained this is special demonstration version and has no relation with the final distribute version. We cannot get it before the end of this year. Most likely, it will come sometime in the first quarter of the next calendar year.

In NeXT Step 2.0, the Display Postscript (Adobe) can handle composite font (Kanji fonts) and the porting of Kana-Kanji translation routine (Canon) was done. Localization of the heart of NeXT Step (NeXT), which are AppKit, kernel, etc., has not yet started.

4. Distribution of Freeware

Written by Mitsuhiro Kishimoto
Translated by Youichi Tanaka

We started distributing PDS MO disks according to your requests. They are not classified well yet. Our PDS SIG will service libraries from now on.

Mr. Morikawa of Canon Software Inc. was very helpfull in this distribution. You can get same the files from a Cube with 660 MB hard disk dedicated for PDS distribution at Canon Software Inc. Canon Inc. at Tamachi office and will also prepare a dedicated Cube for PDS distribution at Shin-Kawasaki office soon.

4.1 Disks

We now have 5 MO disks. Four 60 MB disks and one 200 MB disk. We separated them to allow for future increase of files and for fear of your disk capacity. Few have two MO drives or more than 200 MB hard disk capacity.

- NeXus 1: Standard 54,650 KB
  Standard PDSs for ordinary users
  Apps, data, demo, documents etc.
- NeXus 2: Japanese Environment
  You can use Japanese right now.
  Nemacs, JLaTeX, Jserver, wterm etc.
- NeXus 3: Programmer 64,539 KB
  For hackers
  Programming, Unix, XNeXT etc.
- NeXus 4: Official GNU 62,756 KB
  GNU source programs
  GNU Sources 1.0
- Light House First Compilation 200,088 KB
  PDS collection sold in US
  (We have contact LihgtHouse for free distribution)

4.2 Distribution Method

We have five mailing lists for each MO disk. Write your name and address on them. Also write priority number, if you request more than one MO disk. (One is the first priority, and 2 is the next, and so on.)

We will send each MO disk according to those mailing lists. You must send it to the next person on the mailing list within three days. You have to pay the parcel charge. You have to pay five times at the most.

4.3 Request

Please add some information on following files in each MO disk.

(1) Member List
Write your name, receiving date, sending date and your comments.

(2) Readme file
Usage and description for PDS should be written. Write your discovery at least one. Each bit of information is welcome.

5. CERT Alert

This article mentions possible security holes of NeXT computer reported by Computer Emergency Response Team/Coordination Center (CERT/CC)

CA-90:06a CERT Advisory

October 3, 1990

NeXT's System Software

This message is to alert administrators of NeXT Computers of four potentially serious security problems.

The information contained in this message has been provided by David Besemer, NeXT Computer, Inc. The following describes the four security problems, NeXT's recommended solutions and the known system impact.

Problem #1 DESCRIPTION: On Release 1.0 and 1.0a a script exists in /usr/etc/restore0.9 that is a setuid shell script. The existence of this script is a potential security problem.
Problem #1 IMPACT: The script is only needed during the installation process and isn't needed for normal usage. It is possible for any logged in user to gain root access.
Problem #1 SOLUTION: NeXT owners running Release 1.0 or 1.0a should remove /usr/etc/restore0.9 from all disks. This file is installed by the "BuildDisk" application, so it should be removed from all systems built with the standard release disk, as well as from the standard release disk itself (which will prevent the file from being installed on system built with the standard release disk in the future). You must be root to remove this script, and the command that will remove the script is the following:

```
# /bin/rm /usr/etc/restore0.9
```

Problem #2 DESCRIPTION: On NeXT computers running Release 1.0 or 1.0a that also have publicly accessible printers, users can gain extra permissions via a combination of bugs.
Problem #2 IMPACT: Computer intruders are able to exploit this security problem to gain access to the system. Intruders, local users and remote users are able to gain root access.
Problem #2 SOLUTION: NeXT computer owners running Release 1.0 or 1.0a should do two things to fix a potential security problem. First, the binary /usr/lib/NextPrinter/npd must be replaced with a more secure version. This more secure version of npd is available through your NeXT support center. Upon receiving a copy of the more secure npd, you must become root and install it in place of the old one in /usr/lib/NextPrinter/npd. The new npd binary needs to be installed with the same permission bits (6755) and owner (root) as the old npd binary. The commands to install the new npd binary are the following:

```
# /bin/mv /usr/lib/NextPrinter/npd /usr/lib/NextPrinter/npd.old
# /bin/mv newnpd /usr/lib/NextPrinter/npd
```

(In the above command, "newnpd" is the npd binary
that you obtained from your NeXT support center.)

```
# /etc/chown root /usr/lib/NextPrinter/npd
# /bin/chmod 6755 /usr/lib/NextPrinter/npd
# /bin/chmod 440 /usr/lib/NextPrinter/npd.old
```

The second half of the fix to this potential problem is to change the permissions of directories on the system that are currently owned and able to be written by group "wheel". The command that will remove write permission for directories owned and writable by group "wheel" is below. This command is all one line, and should be run as root.

```
# find / -group wheel ! -type l -perm -20 ! -perm -2 -ls -exec chmod
g-w {}\ ; -o -fstype nfs -prune
```

Problem #3 DESCRIPTION: On NeXT computers running any release of the system software, public access to the window server may be a potential security problem.

The default in Release 1.0 or 1.0a is correctly set so that public access to the window server is not available. It is possible, when upgrading from a prior release, that the old configuration files will be reused. These old configuration files could possibly enable public access to the window server.

Problem #3 IMPACT: This security problem will enable an intruder to gain access to the system.

Problem #3 SOLUTION: If public access isn't needed, it should be disabled.

1. Launch the Preferences application, which is located in /NextApps
2. Select the UNIX panel by pressing the button with the UNIX certificate on it.
3. If the box next to Public Window Server contains a check, click on the box to remove the check.

Problem #4 DESCRIPTION: On NeXT computers running any release of the system software, the "BuildDisk" application is executable by all users.

Problem #4 IMPACT: Allows a user to gain root access.

Problem #4 SOLUTION: œœ

```
# chmod 4700 /NextApps/BuildDisk
```

To remove "BuildDisk" from the default icon dock for new users, do the following:

1. Create a new user account using the UserManager application.
2. Log into the machine as that new user.œ
3. Remove the BuildDisk application from the Application Dock by dragging it out.
4. Log out of the new account and log back in as root.
5. Copy the file in ~newuser/.NeXT/.dock to /usr/template/user/.NeXT/.dock
   (where ~newuser is the home directory of the new user account)
6. Set the protections appropriately using the following command:
   # chmod 555 /usr/template/user/.NeXT/.dock
7. If you wish, with UserManager, remove the user account that you created in step 1.

In release 2.0, the BuildDisk application will prompt for the root password if it is run by a normal user.

CONTACT INFORMATION

For further questions, please contact your NeXT support center.

NeXT has also reported that these potential problems have been fixed in
NeXT's Release 2.0, which will be available in November, 1990.

Thanks to Corey Satten and Scott Dickson for discovering, documenting, and helping resolve these problems.

A. NeXus Membership Application

Welcome to NeXus! Please complete the following application.

1. Name :____

2. Address:____

City:___________________________ State: __________ ZipCode:________

Country: ___________________

3. Method of contact (please prioritize, 1 = highest):

( ) Internet:__________________( ) CompuServe:________________

( ) Nikkei Mix:________________( ) Fido Net:____________________

( ) Snail Mail:________________( ) Facsimile:____________________

( ) other: _____________________

4. Membership type:

( ) Regular 7,500 Yen/Year, ( ) Student 4,000 Yen/Year

( ) overseas 10,000 Yen/Year (air mail deliverly, include Students)

5. Method of payment:

( ) Pay dues to NeXT User Group, Fuji Bank Yotsuya branch (241)

Saving account:1642210

NeXT User Group, 4-4-2 Ebara, Shinagawa-Ku, Tokyo 142 (office address needed for deposit)

( ) Pay at the NeXus user meeting.

6. Do you have a NeXT?

( ) Home ( ) Office ( ) Do not own,

Hard disk:_____ MB, RAM: _____ MB, Printer: ____________

Daily applications: ______________________________________

7. What other computers do you use besides NeXT?

____

8. What would you like to do in NeXus?

SIG: ____

Volunteer work: ____

9. How can we improve the user group ?

10. Comments and Suggestions: