

**SCO<sup>®</sup> UNIX<sup>®</sup>**  
**Operating System**  
Release Notes Addendum





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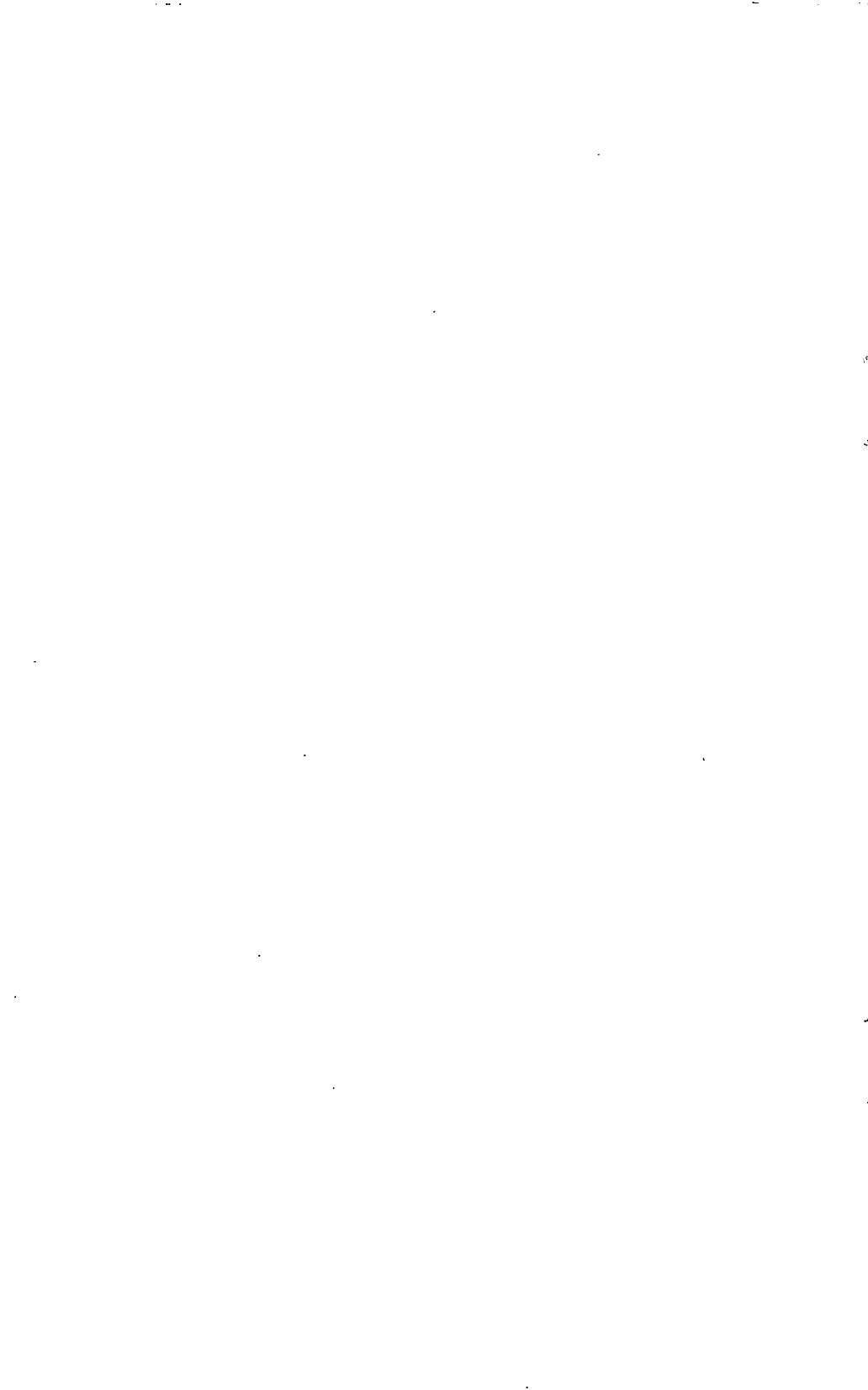
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# Release Notes Addendum

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## ***Introduction***

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This document describes a number of issues that have arisen relating to SCO UNIX System V/386 Release 3.2 Operating System Version 4.0. They are arranged into the following broad categories:

- General installation and operation
- Using SCO networking software
- Hardware-related issues
- UUCP enhancements

Each of these topics is discussed in detail below.

## ***General installation and operation***

---

This section contains a number of notes relating to the installation and operation of your system.

### ***Updating packages currently installed***

During the Update installation, the Package Installation Choice menu invites you to update packages currently installed on your system. Any packages that are partially or fully installed on the system will be installed in full during the Update. If, on your original system, you have installed and then removed a package from the Extended Utilities using `custom(ADM)`, the package may remain partially installed. If you then update your system, the package will be fully installed again. You may wish to remove this package once the Update is complete.

### ***Installing SCO Office Portfolio Release 2.0.0 during the Operating System installation***

Step 22 of the Fresh Installation procedure (refer to the *Installation Guide*) permits the loading of additional software during installation of the Operating System. If SCO Office Portfolio Release 2.0.0 is loaded at this stage, the kernel does not re-link either during or after the installation procedure. In order to use SCO Office Portfolio, the kernel must be re-linked manually when the installation of the Operating System is complete.

### ***Updating a system on which SCO Office Portfolio is already installed***

If your system includes SCO Office Portfolio Release 2.0.0 when you perform the Update installation, you will need to re-make the windows after the procedure is complete. Failure to do this will cause SCO Office Portfolio to function incorrectly.

To re-make the SCO Office Portfolio windows, proceed as follows:

1. Log in as root.
2. Type `op adm` at the prompt.
3. From the SCO Office Portfolio Administration menu, choose **Utility**.
4. Choose **Make Windows**.
5. Choose **Update Changes**.

The Update installation also displaces from the `/etc/rc` directories two control files which start and stop the SCO Office Portfolio calendar server. If you use the calendar after performing the Update, the following message is displayed:

```
No response from server
```

You will need to recover the following files:

- `/etc/rc2.d/S95calserver`
- `/etc/rc0.d/K95calserver`

To recover them, execute the following commands:

```
cp /etc/rc.old/rc0.d/K95calserver /etc/rc0.d/K95calserver
```

```
cp /etc/rc.old/rc2.d/S95calserver /etc/rc2.d/S95calserver
```

Now set the file mode of the files to 774 using the `chmod(C)` utility as follows:

```
chmod 774 /etc/rc0.d/K95calserver
```

```
chmod 774 /etc/rc2.d/S95calserver
```

## ***Using the system administration shell during installation***

Step 38 of the Fresh Installation procedure (refer to the *Installation Guide*) invites you to use `sysadmsh(ADM)` for adding users, configuring the system, or setting defaults. Attempts at this stage to use it for anything else (such as installing more kernel-modifying software) may exceed the restricted capabilities of the kernel used during installation.

If you are installing a system for which you have chosen the “high” security defaults, and you use `sysadmsh` to create a new user, the following message may be displayed when a password is assigned:

```
CONFIG: newproc - Process table overflow (NPROC = 20 exceeded)
```

This message has no adverse affect, and after installation the password can be used as expected. However, if you see this message, you are advised to wait until the installation of the Operating System is complete before adding more users.

## ***Using SCO Shell and SCO Office Portfolio on the same system***

If you make changes to your Applications or Utilities list, (*.applist2* and *.utillist2*) within SCO Shell, you may experience problems when next running SCO Office Portfolio. If so, remove the *.applist2* and *.utillist2* files from your home directory. The default configuration of Applications and Utilities will be provided when SCO Office Portfolio is next invoked.

To avoid this problem, individual users should run only one of these applications, although SCO Shell and SCO Office Portfolio Release 2.0.0 may be installed on the same machine.

## ***X/Open conformance***

Pages 64 to 65 of the Operating System *Release Notes* contain a section entitled "What does X/Open conformance mean?". The last sentence of this section states that SCO Open Desktop conforms to the BASE X/Open profile. This sentence should read: "it is to the BASE profile that SCO UNIX System V Release 3.2 Operating System Version 4.0 conforms."

## ***Login problems on two-user license systems***

If SCO Office Portfolio, SCO Multiview, *mscreen(M)*, *xterm(X)* or *scoterm(X)* sessions are terminated using the *kill(C)* command on a two-user system, the next login process may hang after accepting your login name, and no **Password:** prompt will be issued. If you must use the *kill* command to terminate these sessions, use only the "-1" or "-15" options to avoid this login problem.

If the problem has already occurred, proceed as described in the following sections.

### **With "low", "traditional" or "improved" security defaults**

If another user is logged in, the system administrator should execute the following commands from that user's terminal:

```
su
```

(Enter the root password at the **Password:** prompt.)

```
shutdown -g0 -y
```

If no other user is logged in, you must force a reboot by waiting for the drive light to go out, then using your system's reset or on/off switch.

### **With "high" security defaults**

If root is logged in on another terminal, execute the following command from that terminal:

```
shutdown -g0 -y
```

If root is not logged in, but another user is, the system administrator should attempt execution of the following commands from that user's terminal:

**su**

(Enter the root password at the **Password:** prompt.)

**shutdown -g0 -y**

If this fails, execute **sync(S)** several times, then force a reboot by waiting for the drive light to go out, and using your system's reset or on/off switch.

If no other user is logged in and no further logins are accepted, wait for the drive light to go out, then use your system's reset or on/off switch.

**NOTE:** After rebooting, the system will perform a filesystem check and repair on startup. (Refer to the **fsck(ADM)** manual page for more details.)

## ***Installing the SCO UNIX System V Release 3.2 Development System Version 4.0***

If you are using the Packages option of **custom(ADM)** to install parts of the Development System, do not select the PERMS package. If you do, **custom** may ask you to insert the M1 disk, and may not subsequently recognise it. Installing any other package or the *entire* Development System will work as expected.

**NOTE:** The PERMS package is used by **custom** itself and should not be installed by the user.

## ***Using SCO networking software***

---

The following networking products are compatible with SCO UNIX System V Release 3.2 Operating System Version 4.0:

- SCO NFS Release 1.1.1 and later
- SCO TCP/IP (for SCO UNIX System V) Release 1.1.3 and later
- SCO/Retix OSI Release 1.0
- Microsoft LAN Manager for UNIX Systems (LMU) Release 1.1.0

## ***Support for long filenames and symbolic links***

Please note that SCO NFS Release 1.1.1 and SCO TCP/IP Release 1.1.3 do not support the use of long filenames or symbolic links. These features will be supported in SCO NFS Release 1.2, and SCO TCP/IP Release 1.2.

## ***Manual page index permissions with SCO TCP/IP***

If you install SCO TCP/IP Release 1.1.3 on SCO UNIX System V Release 3.2 Operating System Version 4.0, the file `/usr/man/index` may become incomplete and may have its permissions reset.

To test for this error, type `man batch` at the system prompt. If a message is displayed indicating that no manual page is available for `batch`, correct it by logging in as `root` and entering the following commands:

```
cd /usr/man
grep -vh "^#" index.* | sort -u > index
chmod 644 index
```

Following this, the `man batch` command will execute correctly.

### ***NOFILES tunable parameter with SCO TCP/IP***

If you have SCO TCP/IP installed, avoid setting the `NOFILES` tunable parameter to a value higher than 60 (the default). A higher value may cause problems with any software that uses the `select(2)` system call, typically network-related applications.

### ***Using the Update with SCO networking software***

The Update procedure may partially remove all networking software other than SCO TCP/IP Release 1.1.3 and SCO NFS Release 1.1.1. Products affected include the SCO LLI Drivers, Microsoft LAN Manager for UNIX Systems, and SCO/Retix OSI.

**NOTE:** SCO TCP/IP Release 1.1.3 and SCO NFS Release 1.1.1 will only be retained if the Link Kit is present on the system to be updated. If it has been removed since the installation of the networking software, you must reinstall the Link Kit before doing the Update.

This section describes how to proceed if you have any release of the LLI drivers, Microsoft LAN Manager for UNIX Systems, or any SCO/Retix OSI components installed before you begin the Update.

### **SCO LLI Driver Disk**

If you have any SCO LLI Driver Disk installed on your system, only the following ethernet driver types can be expected to function successfully after the Update installation:

- e3A
- e3B
- e3C
- wdn

If you have any other LLI drivers configured on your system, you must first deconfigure *all* the LLI drivers and then remove the LLI driver product. (For example, to deconfigure an EXOS driver, type `mkdev exos` and select the Remove option. Use `custom(ADM)` to remove the drivers.)

When the Update is complete, the LLI Driver Disk must be reinstalled (using `custom`) and all required LLI drivers reconfigured.

**NOTE:** The Update may remove LLI drivers that are not currently configured. If you require these drivers at some later date, you will need to deconfigure all LLI drivers, then remove the LLI driver product and reinstall it using **custom**.

## Microsoft LAN Manager for UNIX Systems

Before performing the Update, Microsoft LAN Manager for SCO UNIX Systems must be deconfigured. To do this, use **netconfig** if installed over NetBEUI and **mkdev lmx** if installed over TCP/IP. After deconfiguration, remove the following products from the system:

- Microsoft LMU NetBEUI
- Microsoft LMU UNIX Server
- Microsoft LMU UNIX Client

When the Update is complete, reinstall those components of Microsoft LAN Manager for UNIX Systems that have been removed. Installation instructions for these components are included in their accompanying documentation.

**NOTE:** Microsoft LAN Manager for UNIX Systems is supplied with a set of LLI drivers. Please read the above section concerning the LLI Driver Disk, since this also applies to the LLI Driver Disk supplied with Microsoft LAN Manager for UNIX Systems.

## SCO/Retix OSI products

Before performing the Update, all SCO/Retix OSI components (FT820, VT720, VT610, MH440, MH423) must be deconfigured and removed from the system. Use **netconfig(ADM)** to deconfigure the SCO OSI components, and **custom(ADM)** to remove the SCO/Retix OSI components.

When the Update is complete, reinstall those components of SCO/Retix OSI that were removed. Installation instructions for these components are included in their accompanying documentation.

**NOTE:** SCO/Retix OSI is supplied with a set of LLI drivers. Please read the above section concerning the LLI Driver Disk, since this also applies to the LLI Driver Disk supplied with SCO/Retix OSI.

## ***Hardware-related issues***

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This section describes potential problems of the Operating System that may arise with specific items of hardware.

### ***Wangtek DAT drives and DPT SCSI host adapters***

It is believed that Wangtek DAT drives do not function satisfactorily when controlled from a DPT SCSI host adapter.

### ***Special installation instructions for machines with EISA SCSI host adapters***

The following machines incorporate EISA host adapter cards:

- Olivetti CP486
- Olivetti M486
- Olivetti LSX 5000 series
- DEC DS425

The manufacturer's EISA configuration utility allows the host adapter card to be configured for either AT mode or SCSI mode. To ensure correct installation of the Operating System, the configuration should be set to SCSI mode. This will also ensure that SCSI peripherals required for installation (tape or CD-ROM) will operate correctly during and after installation.

The following example shows the relevant settings that should be made for the Olivetti CP486:

- AT Compatible Disk Controller: Disabled
- ROM BIOS Access Mode: High Performance SCSI
- Direct SCSI: Enabled

Please consult your system manufacturer's documentation for details of the EISA configuration procedure.

### ***Compaq Supplement Release 1.3***

The following features of the Compaq Supplement have been incorporated into SCO Unix System V Release 3.2 Operating System Version 4.0.

- EISA ROM
- Compaq IDA disk drive system
- Compaq SCSI tape drive system
- A Supplement is no longer necessary to provide these features.

The *Release Notes* for the Compaq Supplement Release 1.3 state that it may be installed on SCO UNIX System V Release 3.2 Operating System Version 2.0 *or later*. This is incorrect; the Compaq Supplement Release 1.3 or earlier should not be installed on Version 4.0 of the Operating System. Note, however, that a new release of the Compaq Supplement will soon be available, for installation on SCO UNIX System V Release 3.2 Operating System Version 4.0.

### **Updating a system that contains the Compaq Supplement Release 1.3**

The Compaq Supplement should be completely removed using `custom(ADM)` before you update your system to SCO UNIX System V Release 3.2 Operating System Version 4.0. The Update procedure does not detect the presence of the Supplement, and does not remove files and/or drivers that may conflict with the updated Operating System.

If the Update of the Operating System has been performed with the Compaq Supplement installed, you will need to remove certain files and directories from the system manually. Proceed as described below.

1. Log in as *root*.
2. Delete the Supplement's directory structure and files, by executing the following command:  
`rm -rf /usr/lib/compaq`
3. Remove the Supplement's `mkdev` scripts individually, by typing the following:  
`rm /usr/lib/mkdev/cpqmgr`  
`rm /usr/lib/mkdev/neth`  
`rm /usr/lib/mkdev/ctr`
4. Remove the Supplement's system manager control file by executing the following command:  
`rm /etc/cpqmgr`

### **Support for the NE3200 driver**

The Compaq Supplement Release 1.3 includes the NE3200 driver. You can extract this driver and configure it for the new Operating System by following the instructions below.

1. Log in as *root*.

2. Create a file called *neth* in the root directory using a generic text editor (such as *vi*). In this file, list the files to be extracted from the Compaq Supplement volumes. These files are:

```
./usr/lib/compaq/neth
./usr/lib/compaq/bin/ne_load
./usr/lib/compaq/bin/neth.dwnld
./usr/lib/compaq/bin/neth_tcp
./usr/lib/compaq/bin/netstat
./usr/lib/compaq/bin/in_kernel
./usr/lib/netconfig/remove/ne_0
./usr/lib/netconfig/init/ne_0
./usr/lib/netconfig/init/ne_0.def
./usr/lib/netconfig/info/ne_0
./usr/lib/mkdev/neth
./etc/eisa_get
```

3. Insert the first volume of the Supplement into the default floppy drive and extract the files with the following command:  
**tar xvffn /dev/install /neth**
4. Install the driver in the kernel by executing the following command:  
**cd /usr/lib/compaq/neth**  
**/etc/conf/bin/idinstall -a -k ne\_d**
5. Configure the driver and tcp by executing the following command:  
**mkdev neth**

## Support for the Token Ring driver

The Compaq Supplement Release 1.3 includes the Token Ring driver. You can extract this driver and configure it for the new Operating System by following the instructions below.

1. Log in as *root*.
2. Create a file called *ctrl1* in the root directory using a generic text editor (such as *vi*). The following files will be extracted from the Compaq Supplement volume 1 and stored in *ctrl1*:

```
./usr/lib/compaq/bin/netstat
./usr/lib/compaq/bin/in_kernel
./usr/lib/netconfig/remove/ctr
./usr/lib/netconfig/remove/ctr.def
./usr/lib/netconfig/init/ctr
./usr/lib/netconfig/init/ctr.def
./usr/lib/netconfig/info/ctr
./etc/eisa_get
```

3. Create a file called *ctrv2* in the root directory using a generic text editor (such as *vi*). The following files will be extracted from the Compaq Supplement volume 2 and stored in *ctrv2*:

```
.usr/lib/compaq/ctr  
.usr/lib/compaq/bin/mac380.bin  
.usr/lib/compaq/bin/ctr_start  
.usr/lib/compaq/bin/ctr_stop  
.usr/lib/mkdev/ctr
```

4. Insert the first volume of the Supplement into the default floppy drive.
5. Extract the files using the following command:  
**tar xvFfn /dev/install /ctrv1**
6. Insert the second volume of the Supplement into the default floppy drive.
7. Extract the files using the following command:  
**tar xvFfn /dev/install /ctrv2**
8. Make a save directory for configuration files:  
**mkdir /usr/lib/compaq/save**
9. Configure the driver and tcp by executing the following command:  
**mkdev ctr**

Select the **m** option to modify the configuration.  
Select the **r** option to relink the kernel.

## ***Installing Compaq tapes***

The tape drive selection script displays several tape options, including the following:

- scsi
- compaq
- wangtek

If you are installing a Compaq (320/525Mb) SCSI tape system, you should select *compaq* when installing the Operating System. Note that the tape device ID *must* be 0. The Compaq SCSI adapter should be configured as follows:

- **addr = 0x130**
- **irq = 5**
- **dma = 7**

If you are installing a Compaq 150/250 tape drive, choose *wangtek* and specify the following parameters:

- **addr = 0x300**
- **irq = 5**
- **dma = 3**

## ***Installing on an EISA system containing two SCSI host adapters sharing the same interrupt***

Attempts to perform the Fresh or Update installation will fail on an EISA system containing two SCSI host adapters sharing the same interrupt; the system may lock when the N2 disk is inserted. If possible, move the second host adapter to a different interrupt for the duration of the installation process. If no spare interrupts are available, physically remove the second host adapter from its slot until the installation is complete.

## ***Using a mini-cartridge/floppy tape as a backup device***

If you intend to use a mini-cartridge/floppy tape as a backup device, the system administrator must update the device nodes on the emergency boot floppy set as described below.

1. In single user (system maintenance) mode, mount the root floppy disk by executing the following command:  
**mount /dev/fd0 /mnt**
2. Copy the special files */dev/rctmini* and */dev/xctmini* to your root floppy disk by executing the following command:  
**copy /dev/rctmini /dev/xctmini /mnt/dev**
3. If an Irwin mini-cartridge floppy tape is configured, copy the special file */dev/mcdaemon* to your root floppy disk. (If a QIC-40 or QIC-80 floppy tape is configured, go immediately to step 4.) Execute the following command:  
**copy /dev/mcdaemon /mnt/dev**
4. Unmount the root floppy disk by executing the following command:  
**umount /dev/fd0**

## ***UUCP enhancements***

---

The UUCP package (refer to *uucp(C)*) includes the protocols *e*, *f*, and *x*, as well as additional interface options for TCP/IP and TLI (Transport Layer Interface), and TLIS (Transport Layer Interface with Streams).

For a successful UUCP transfer using one of these additional interface options, a daemon is essential at the receiving end to detect the UUCP request. This daemon then starts the *uucico* daemon (refer to *uucico(ADM)*) running on the remote machine. The two *uucico* daemons (one on each machine) deal with the details of the transfer. The following three sections provide examples for the super user in configuring each interface.

## *Additional options for the TCP/IP protocol interface*

In the case of the TCP/IP protocol interface, the daemon that detects the UUCP request is the `inetd` network superserver. It listens to all the network ports and spawns the appropriate daemon to deal with the request.

Port 540 is allocated to UUCP, and the daemon used is `uucpd`. The daemon `uucpd` starts `uucico`, passing the string “-iTCP” as an argument, which forces `uucico` to use the TCP/IP protocol interface.

The following entry must be present in the file `/etc/services`:

```
uucp 540/tcp uucpd # uucp daemon
```

In addition, you will need to make several amendments as described below.

1. Add the following entry to the file `/etc/inetd.conf`:

```
uucp stream tcp nowait root /usr/lib/uucp/uucpd uucpd
```

2. Add the following entry to the file `/usr/lib/uucp/Systems` (refer to the `systems(F)` manual page):

```
scoast Never TCP,e Any - ogin:-BREAK-ogin:-BREAK-ogin: nuucp
```

where `scoast` is the name of the destination machine.

3. Add the following entry to the file `/usr/lib/uucp/Devices` (refer to the `devices(F)` manual page):

```
TCP TCP,e - Any TCP 540
```

## *Additional options for the TLI interface*

In the case of TLI (Transport Layer Interface), the daemon `uucico` is started by the `nls` (network listening service) server, which monitors a specific socket for requests.

To configure the network *listening* server, proceed as follows:

1. Create a port (for example, 256) for the `nls`, by adding the following line to the file `/etc/services`:

```
nls 256/tcp # TLI port
```

2. Initialise the `nls` by typing the command:

```
nlsadmin -i inet/tcp
```

3. Set up the `nls` service code by typing the following (single) command:

```
nlsadmin -a 101 -c "/usr/lib/uucp/uucico -r0 -iTLI -u nuucp" -y  
"<nls service>" inet/tcp
```

4. Tell the listener which socket address it should be listening on. The address is a 16-byte *hexadecimal* number, derived as follows:

- a. The first byte is the address family (`AF_INET` in this case, which is defined as 2 in the file `/usr/include/sys/socket.h`).

- b. The second byte is 0.

- c. The third and fourth bytes are the port on which the `nls` is listening (the second field in the entry you added to `/etc/services`).

- d. The fifth, sixth, seventh and eighth bytes are the IP address of the machine on which the nls is running.
- e. The remaining eight bytes are all set to 0.
- f. Therefore, in this case, if the machine on which the nls is running has IP address 150.126.4.22 (that is 0x96.0x7e.0x04.0x16), the entire socket address is:

```
0x02000100967e04160000000000000000
```

You can use the `bc(C)` command to convert between decimal and hexadecimal numbers.

5. Configure the nls to listen on that address by typing the command:  
**nlsadmin -l "\x02000100967e04160000000000000000" inet/tcp**
6. Start the nls by typing the following command:  
**nlsadmin -s inet/tcp**

To configure the machine *initiating* the connection, three files must be edited.

1. Add the following *single* entry to the file `/usr/lib/uucp/Systems`:

```
scoast Never TLI,g Any
\002\000\001\000\226\176\004\026\000\000\000\000\000\000\000\000
\000
```

where `scoast` is the listening server machine name.

(When an address is typed in the *Systems* file, it should be given in bytes, exactly as it was given in the nls case. However, the bytes should be expressed as `\000` where `000` is the *octal value* of each byte.)

2. Add the following entry to the file `/usr/lib/uucp/Devices`:

```
TLI inet/tcp - Any TLI \D nls
```

3. Locate the following entry in the file `/usr/lib/uucp/Dialers` (refer to the **dialers(F)** manual page):

```
nls " " " " NLPS:000:001:1\N\c
```

and replace it with:

```
nls " " " " NLPS:000:001:101\N\c
```

where `101` is the service number of the listening service requested by the TLI.

**NOTE:** Test the `uucp` connection with the command:

```
/usr/lib/uucp/uutry -x9 -r scoast
```

where `scoast` is the the appropriate machine name.

Also, you should ensure that the file `/usr/lib/uucp/Permissions` contains a suitable entry for the `uucp` user, for example `nuucp`.

After configuring the nls service to work on the ports selected, you can either add an entry to the */etc/inittab* file, or write a new script to execute the steps above. Edit the file *S88USRDEFINE* in the directory */etc/rc2.d*, adding the relevant information to start the nls so that this service is executed automatically when the system goes into multiuser mode.

### ***Additional options for the TLIS streams-based transport provider***

Use the */usr/lib/uucp/Devconfig* file to define which STREAMS modules should be pushed on top of the TLI transport provider. Entries in the *Devconfig* file have the following format:

```
service=uucico device=TLIS push=x[:y:z...]
```

where *x, y, z . . .* are the names of STREAMS modules, specified in the order that they are to be pushed onto the stream.

To configure the network listening service, follow the procedure described above for TLI, with the following exceptions:

1. Replace the keyword TLI with TLIS wherever it appears in file entries.
2. Set up the nls service by typing the following (single) command:

```
nlsadmin -a 101 -p x,y,z -c "/usr/lib/uucp/uucico  
-r0 -iTLIS -u nuucp" -y "<nls service>" inet/tcp
```

Note the use of the *-p* argument. This is used to specify the names of the STREAMS modules in the order that they are to be pushed onto the stream. The modules used must be identical to those specified in the *Devconfig* file entries.

For example, an entry in *Devconfig* of the form:

```
service=uucico device=TLIS push=ptem,tirdwr
```

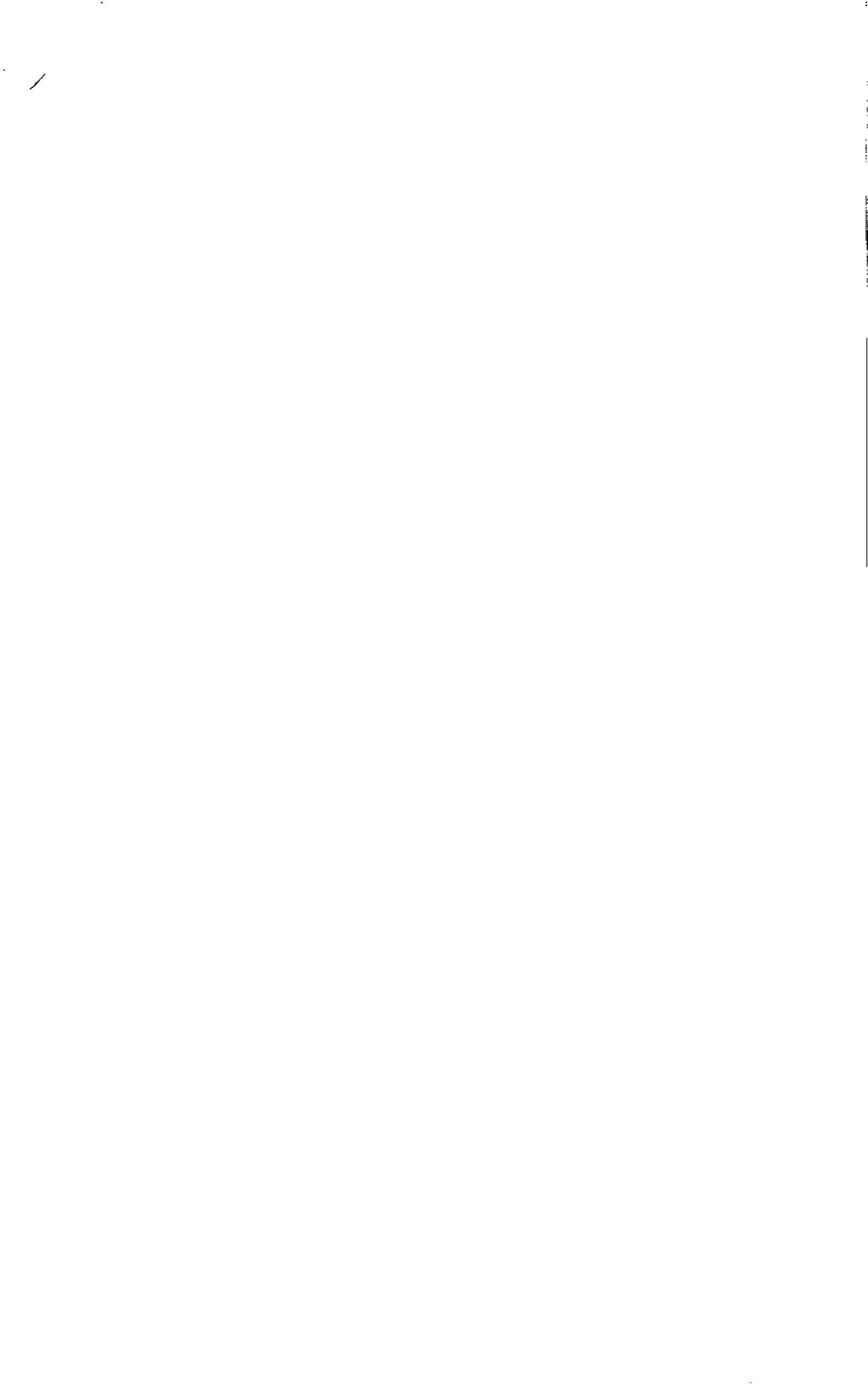
would require the following command to set up the nls service code:

```
nlsadmin -a 101 -p ptem,tirdwr -c "/usr/lib/uucp/uucico -r0 -iTLIS  
-u nuucp" -y "<nls service>" inet/tcp
```

After configuring the nls service to work on the ports selected, you can either add an entry to the */etc/inittab* file, or write a new script to execute the steps above. Edit the file *S88USRDEFINE* in the directory */etc/rc2.d*, adding the relevant information to start the nls so that this service is executed automatically when the system goes into multiuser mode.









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