

NBP99-04

End of Cruise Report

May 11, 1999

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The following Sections were notes compiled during the turnover with Jenny Fox and Earnie Joynt. Due to the power outage, this information could not be included in the previous report

Backups on Discovery and Challenger

Before running a backup, make sure that the rvdaily script has finished running. Ignore the 'file grew' warning messages. Backups on /data should be done using a bru command. Backups on /usr/people should be done using a 'dump' command.

Daily Data Processing

Run rvpnav process twice, once with Ashtech. After that, move gapfile. Run it again w/o the Ashtech after that.

Do not use MB for rvpbath use Simrad for depth shallower then 2500 meters, Bathy for depth greater then 2500 meters.

Be careful with xmerge, run these processes on the O2s as that seems to work better then from an Indi or an Iris.

When running rvdas_daily, do not use '-d' option. -d is a Perl debugging option and will cause numerous errors on the files.

Use the script to make the cruise track and actually plot the cruise track before burning the CD.

If you have to xmerge a day more then once, you need to move, then remove the temp files, e.g. DJJJ.mgd where JJJ = Julian Day.

Data_god runs once on RV and once on RTDAS.

User Administration

To add users on Unix, use adduser script in /usr/local/bin/sh

Science accounts are now added to /usr/people/science/current_cruise, making them easier to clean up after a cruise.

Hint: Make current_cruise directory before creating accounts.

When deleting users, use the 'deluser' script. This script is slow, but convenient. It also scans the directory tree for files created or owned by a particular user.

Eudora Address Books

After creating new address lists, log in as admin on any PC. Open Eudora, open any address book and make any minor modification to address book. Close address book and you will not have any problem with address book permission problems again.

Making Tapes

When making DAS data tapes, or any other tapes, use the `tar -cvbf 20 /dev/rmt/tpsXdX ns` command. Be sure to include 'ns' for no swap, otherwise you will not be able to read these tapes on a non-SGI platform.

Sample command:

```
/data/current_cruise: tar -cvbf 20 /dev/rmt/local_tape_info_here xbt adcp rvdas rtdas  
any_other_directories_in_current_cruise_here.
```

To check dat tapes:

```
Tar -tvbf 20 /dev/rmt/tps0d6ns
```

This will give you a list of filenames on the tape. Make sure all directories are there.

Public PCs

Paul Huckins upgraded the MPC computer. During the installation of the new processors, the processor board voltage was not decreased from 3.3 to 2.8 volts. We dropped the board voltage on all public PCs, including the MPC PC to 2.8 volts. Additional RAM was added to the public PCs. We installed the two internal Zip drives in the E-lab. A new scanner replaced the old Apple scanner on Sylvester.

Winch Logging

For a long time, the starboard trawl winch would send an intermittent bad string of data. Finally, this problem was tracked down to the short-haul modem on the winch. The modem was replaced. So far, this seems to have solved the problem.

The following section was written by David Leger:

Daily Processing Scripts:

`rvpbath`, `rvpmag`, and `rvpbath` all were modified to remove excess GMT plots. In each, after selecting which source of data you want from a multi data source display, the script would bring up yet another plot, with that single data type displayed (i.e. select from Bathy, Simrad, and SeaBeam, then after selecting Bathy, it displays Bathy again). These extra plots were removed.

`rvpbath`, `rvpmag`, and `rvpnav` all had the problem that if a large block of data was edited out, or there was a gap in the data, `sample1d` would interpolate dummy data across this large gap. Since the `sample1d` interpolated data is indented in the final file, an `awk` script was built into each daily processing script to remove any gaps of 3 or more samples from the final file. At the same time, the processing scripts were modified to leave fewer remnants in the `geopdata` directories (such as `.cut.cln` files).

rvdas_daily was modified to automatically call the plot_raw_sb_day script and generate the plots and links to the Edit directory for each days multibeam data. The plot_raw_sb_day script was made silent, so no extra text is printed which would be emailed to the cron owner.

rvdas_daily did not process daily data correctly when given the -d day# command line argument. It did work with the rvdas_daily day# syntax - the -d is a reserved flag in pearl for debugging.

A new watch stander's screen was generated which uses RVDAS instead of RTDAS. It is defined in the rvdas_watch.dsp parameter file. The watch_display script was modified to rsh this from discovery and bring the display up, so operationally there have been no changes. The watch_display script sets the update rate at once every 5 seconds. Once per second was found too distracting to people copying down figures.

A cron was added on iris-3's root cron to call /usr/local/bin/time_monitor every 5 minutes. This script will check if the rv_timed Irig-b time synchronization program is running, and if not, will start it up.

Matlab 4 was removed from discovery and matlab 5.3 installed on orca. Orca has had 64 Mb of additional swap space added. Orca has also been enabled as a timem server, should grantees wish to receive time updates to their unix machines. This can be turned on or off rom chkconfig. The timem.options is set up to have the machine only trust itself, and it is timeslaved to iris-3. This does not work reliably under IRIX 5.3, but seems to work fine under IRIX 6.5 on the O2's.

The SGI O2's had the Fortran compiler's support libraries loaded on, and they now compile fortran source code.

A swap file, swap2, was created on albatross. It has not been added to the fsatb, but can be added to swapping if needed by typing 'swap -a /swap' as root.

The grantees requested custom reports while their equipment was being towed. These reports had date/time, latitude, longitude, gyro heading, speed over ground in Kn, wire payout on the winch, and sonar depth (one bathy, one multibeam). zaps.sh writes out this data (with bathy) every second, gemoar.sh (with multibeam) writes the data out every 30 seconds (per the grantee request, they found every second overwhelmed Excell). These can be used as guides for making such scripts when needed, or used as is.

The seabeam tools find_low_sb and find_high_sb were modified to handle either format 41 or 43, and to not require a full pathname, but look in /data/current_cruise/MB/Edit. These enw versions are called lowsbs and highsbs.

Netscape and acroread were re-installed on challenger, they had disappeared. The rvdas help button on the control panel now works again.

Full backups of /usr/local for challenger and discovery will be placed in the backup rack. These areas should be tar'ed at the end of each cruise, as current backups do not cover them. A copy will also be taken back to ASAHQ.

Dave Leger

The Address List Problem

When an address list is inserted to /home/public/Addresses/Eudora as a .txt file in the correct format:
alias Lastname_Firstname Firstname Lastname <emailaddress>

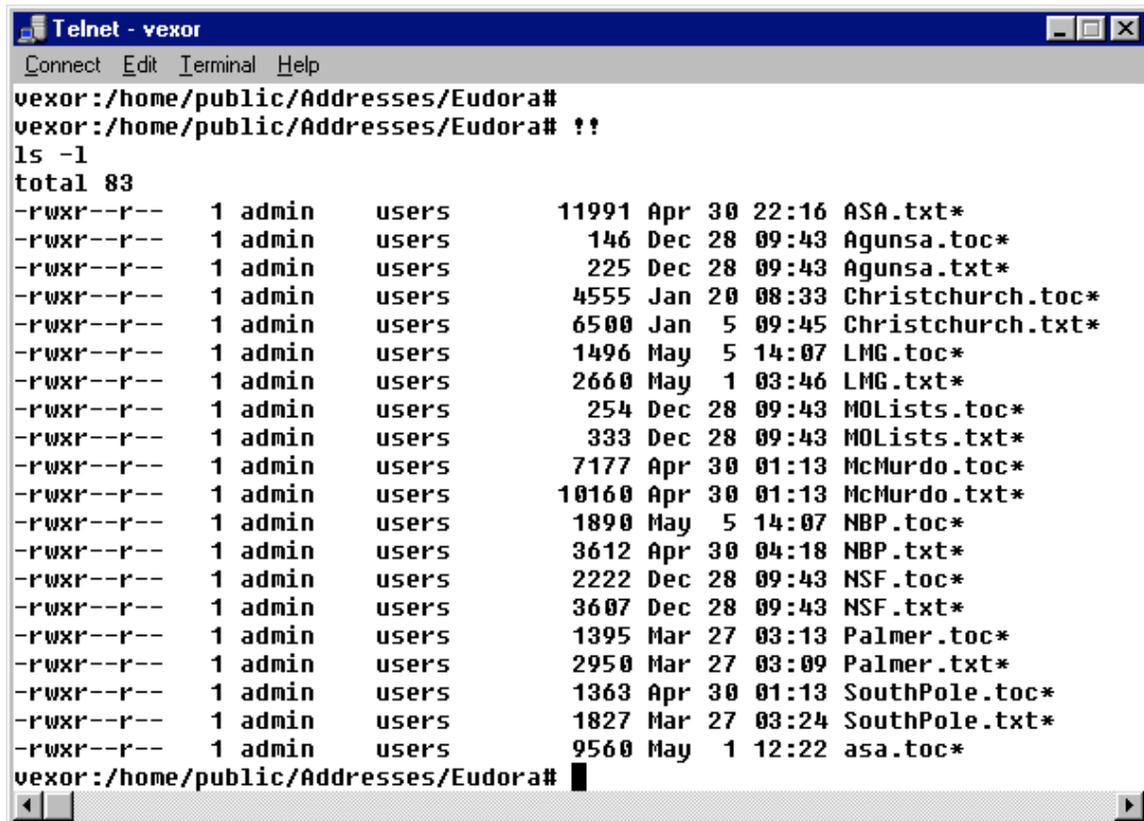
Eudora generates a corresponding Table-of-Contents (.toc) file. Unfortunately, since Eudora is a windows-based product, it is not very good about capitalization when creating file names.

Therefore, if you generate a list like ASA.txt, Eudora creates a .toc file which it names asa.toc.

Because Unix prioritizes based on capitalization, the ASA.txt file will be one of the first entries in the /home/public/Addresses/Eudora directory and asa.toc will be one of the last.

When a user enters an address in Eudora, the software uses the entry in the address.txt file to look for the next, not necessarily the corresponding address in the address.toc file. If a username is not found in the .toc file, Eudora will go to the next .toc file until the username is found. Therefore, it is possible to e-mail the right person at the wrong location, e.g. mail for username@nbp.polar.org will go to username@agunsa.org. In the below example, Eudora would look for the username for ASA in the Agunsa.toc file, if it is not found, it would look in Christchurch.toc and so on.

Notice that simply by changing the capitalization of the .toc file, a file can be completely separated.



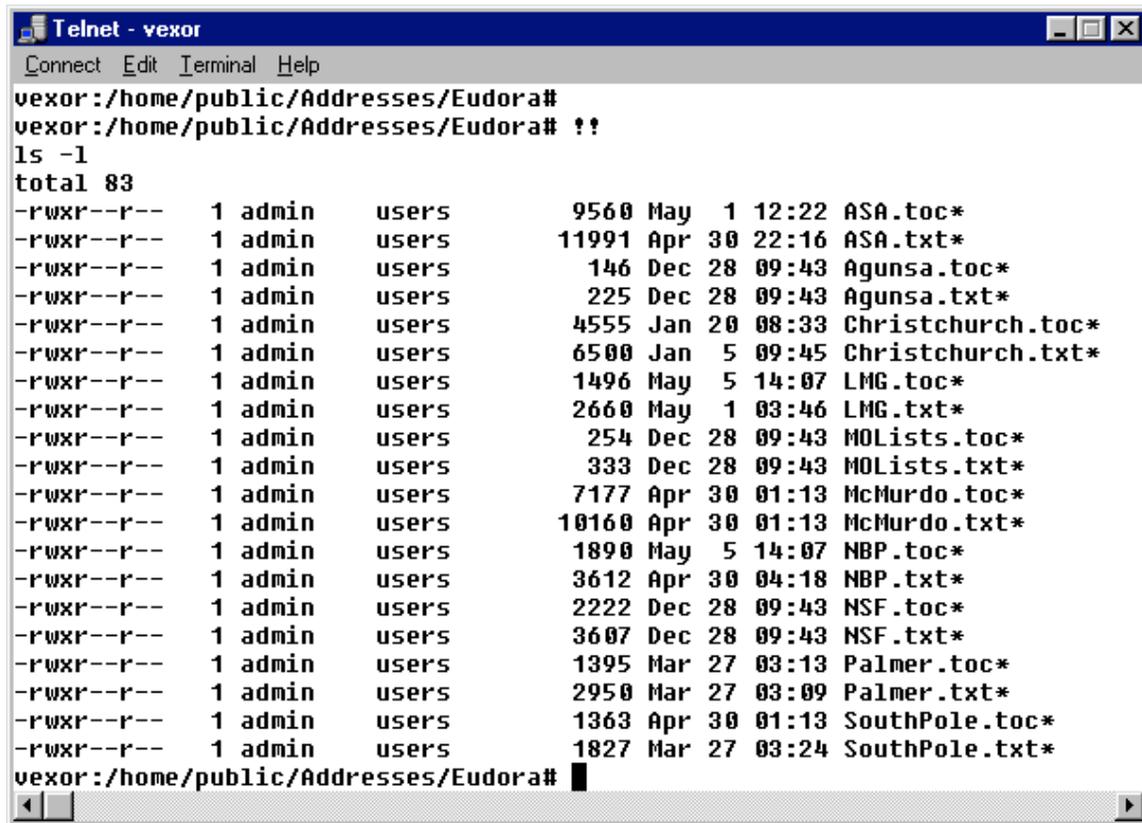
```
Telnet - vexor
Connect Edit Terminal Help
vexor:/home/public/Addresses/Eudora#
vexor:/home/public/Addresses/Eudora# !!
ls -l
total 83
-rwxr--r--  1 admin  users    11991 Apr 30 22:16 ASA.txt*
-rwxr--r--  1 admin  users     146 Dec 28 09:43 Agunsa.toc*
-rwxr--r--  1 admin  users     225 Dec 28 09:43 Agunsa.txt*
-rwxr--r--  1 admin  users   4555 Jan 20 08:33 Christchurch.toc*
-rwxr--r--  1 admin  users   6500 Jan  5 09:45 Christchurch.txt*
-rwxr--r--  1 admin  users   1496 May  5 14:07 LMG.toc*
-rwxr--r--  1 admin  users   2660 May  1 03:46 LMG.txt*
-rwxr--r--  1 admin  users    254 Dec 28 09:43 MOLists.toc*
-rwxr--r--  1 admin  users    333 Dec 28 09:43 MOLists.txt*
-rwxr--r--  1 admin  users   7177 Apr 30 01:13 McMurdo.toc*
-rwxr--r--  1 admin  users  10160 Apr 30 01:13 McMurdo.txt*
-rwxr--r--  1 admin  users   1890 May  5 14:07 NBP.toc*
-rwxr--r--  1 admin  users   3612 Apr 30 04:18 NBP.txt*
-rwxr--r--  1 admin  users   2222 Dec 28 09:43 NSF.toc*
-rwxr--r--  1 admin  users   3607 Dec 28 09:43 NSF.txt*
-rwxr--r--  1 admin  users   1395 Mar 27 03:13 Palmer.toc*
-rwxr--r--  1 admin  users   2950 Mar 27 03:09 Palmer.txt*
-rwxr--r--  1 admin  users   1363 Apr 30 01:13 SouthPole.toc*
-rwxr--r--  1 admin  users   1827 Mar 27 03:24 SouthPole.txt*
-rwxr--r--  1 admin  users   9560 May  1 12:22 asa.toc*
vexor:/home/public/Addresses/Eudora#
```

The Solution

First, when creating new mailing lists don't use any uppercase letters in the filename and you will sidestep this problem indefinitely. Check the web scripts to make sure that the html address lists follow the same format. If the format is different, change the script for creating the html mailing list rather than the Eudora script.

Ensure that the capitalization of the .toc file is exactly the same as the .txt file.
Whenever entering a new address or creating one for a cruise, check the listing in
/home/public/Addresses/Eudora to make sure that .toc and corresponding .txt files are always sequentially
ordered.

Below is an example of such an ordered list.



```
Telnet - vexor
Connect Edit Terminal Help
vexor:/home/public/Addresses/Eudora#
vexor:/home/public/Addresses/Eudora# ??
ls -l
total 83
-rwxr--r--  1 admin  users      9560 May  1 12:22 ASA.toc*
-rwxr--r--  1 admin  users     11991 Apr 30 22:16 ASA.txt*
-rwxr--r--  1 admin  users      146 Dec 28 09:43 Agunsa.toc*
-rwxr--r--  1 admin  users      225 Dec 28 09:43 Agunsa.txt*
-rwxr--r--  1 admin  users     4555 Jan 20 08:33 Christchurch.toc*
-rwxr--r--  1 admin  users     6500 Jan  5 09:45 Christchurch.txt*
-rwxr--r--  1 admin  users     1496 May  5 14:07 LMG.toc*
-rwxr--r--  1 admin  users     2660 May  1 03:46 LMG.txt*
-rwxr--r--  1 admin  users      254 Dec 28 09:43 MOLists.toc*
-rwxr--r--  1 admin  users      333 Dec 28 09:43 MOLists.txt*
-rwxr--r--  1 admin  users     7177 Apr 30 01:13 McMurdo.toc*
-rwxr--r--  1 admin  users    10160 Apr 30 01:13 McMurdo.txt*
-rwxr--r--  1 admin  users     1890 May  5 14:07 NBP.toc*
-rwxr--r--  1 admin  users     3612 Apr 30 04:18 NBP.txt*
-rwxr--r--  1 admin  users     2222 Dec 28 09:43 NSF.toc*
-rwxr--r--  1 admin  users     3607 Dec 28 09:43 NSF.txt*
-rwxr--r--  1 admin  users     1395 Mar 27 03:13 Palmer.toc*
-rwxr--r--  1 admin  users     2950 Mar 27 03:09 Palmer.txt*
-rwxr--r--  1 admin  users     1363 Apr 30 01:13 SouthPole.toc*
-rwxr--r--  1 admin  users     1827 Mar 27 03:24 SouthPole.txt*
vexor:/home/public/Addresses/Eudora#
```

Tobias Schunck, May 5, 1999

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Un-interruptable Power Supply for the LAN Office and Dry Lab

Introduction

A large UPS (located in room 924) provides a power backup and also “cleans” the ship’s electricity. The length of service provided by the UPS in case of a power failure varies greatly, depending how many devices are hooked up to the UPS.

In general, the outlet boxes serviced by the UPS are tan and labeled “120V UPS POWER. Non-UPS outlet boxes have a white face and are labeled “120V- SHIP POWER”.

There are exceptions to the above guidelines. For examples the outlet boxes in the LAN racks provide UPS power, even though they are white in color. Each outlet box contains a number, corresponding to a number on the breaker panel. In the electronics lab, the breaker box is located just aft of the door to the hallway. In the dry lab, the breaker box is located on the starboard wall near the tape duplicator. Both of these breaker boxes are labeled “EP” (Emergency Power), indicating that all circuits are connected to the UPS.

Because the UPS system has failed several times, additional power supplies have been added to provided for some vital systems such as the network server as well as computers used to log and store DAS data.

Power- Down Procedures

There are several reasons why all machines might have to be powered down suddenly. They include UPS maintenance or any other situation that would cause power fluctuations. It is imperative that only vital equipment be connected to the UPS to avoid a system overload which could cause power fluctuations which are damaging to all devices.

Please instruct boarding scientists not to connect non-vital equipment to the UPS system. Explain the difference between ships power and UPS power. After the labs are set up, make sure that no non-essential equipment is plugged into the UPS system. This will require a thorough walk-around through the labs.

Use the Sherlock power monitoring system to check for spikes and voltage fluctuations. In the past, refrigeration equipment plugged into the UPS has caused frequent spikes as the motors for the refrigerator compressors start and stop intermittently.

Should the ships’ generators fail, the UPS power should continue for some time. It is important that all computers be shut down properly to avoid losing data or damaging equipment. Therefore, please familiarize yourself with the below instructions:

Emergency Power- Down Procedures

1. Shut down Challenger and Discovery using the shutdown now command.
2. Shut down Vexor using the same command.
3. Shut down the remaining SGI machines (O2s, Irises) and Terranova as well as any peripherals.
4. Shut down the PCs and Printers.
5. Shut down the Gravimeter PC as well as the gravimeter itself. Secure the instruments according to the instructions. If the ship's non-UPS power supply is relatively safe, connect the gravimeter heaters to the ship's power using an extension cord. Keep in mind that the gravimeter requires between 24 and 48 hours for a cold start if the heaters are turned off.
6. After all computers are turned off, go to the breaker box panels EP207 (in the forward dry lab, against the starboard side wall) and EP206 (in the dry lab, aft of the door leading to the hallway) and turn off all circuit breakers.
7. If the ship's power is relatively safe, connect a UPS to the ship's power and use it to supply the rubidium clock. This is especially important if you are underway and data collection has already commenced.

Additional Power Protection: Secondary UPS and power conditioners:

All computers in the labs should be protected via an additional power conditioner or secondary UPS. When installing or re-configuring systems, please use power conditioners whenever possible.

LAN Office secondary UPS

Please do not unplug / change the current configuration without checking with the network administrator.

Look for the yellow electric tape to see which computers are serviced by this UPS.

This UPS services the following:

1. Vexor.
2. TRAX Rubidium clock
3. Forward power strip in rack 17 (numbers are on the front of the rack)
4. Forward power strip in rack 16 (numbers are on the front of the rack)

Directions for installing updated virus definitions

Network Administrator:

Unzip the compressed file onto its own subdirectory on the LAN PC's C: drive.

Copy the subdirectory onto the P:\drive.

On Vexor, change the users' permissions to exclude anyone to be able to write to this directory. In the past, a virus has been able to infect the anti virus program and subsequently was spread through the entire network.

Any user:

In windows, open up McAfee virus scanner. Open up the HELP / ABOUT menu. Records the virus release number and date.

On /public, look for a folder named 'defs'. Copy this folder to the local C: drive.

Re-start your computer in DOS mode.

In DOS, change to the McAfee program directory. To do this, type: `cd c:\progra~1\networ~1\mcafee~1` directory.

From there, copy the contents of the C:\defs folder by typing `copy c:\defs*.*`.

When you are prompted to overwrite files, type either 'Y' for yes or 'A' for all .

Once the files have been copied, type 'exit' to restart your computer to windows.

In windows, open up the McAfee program and go to the HELP / ABOUT menu.

Check to make sure that the version number and date of the viruses have been updated.

Run a scan on your local drive (C and D, where applicable), your home directory (U:\) and any removable media.

Virus Policy

After the extremely bothersome issue of virus infestation, we worked on a policy that would prevent a re-occurrence of a similar incident. This is the latest revision to the proposed policy.

The latest changes are ***bolded, italicized & underlined***

Computer Virus Prevention

Statement of Intent

It is my intent to find reason to kill you all during the course of the cruise and dispose of your bodies. Due to the risk of data loss, basic safeguards against computer viruses must be observed. This policy aims to prevent data loss or an interruption to computing onboard the NBP.

ASA Headquarter Support

Virus signatures will be mailed to the ship every time a major update is being offered. ASAHQ should send special updates for critical virus situations within 24 hours of learning such critical updates are available. Whenever possible, these files will be hand-carried to the port call. When this is not a safe alternative, these files will be sent via the Ffastest's file transfer system. ***IS personnel in Denver who are monitoring the ASA network in Denver should forward them to the vessels.***

Software

ASA will provide licensed anti-virus software for public computers as well as ASA owned computers (i.e. laptops, pilothouse PC, etc). The network administrator will provide evaluation copies to grantees when needed. Grantees need to be made aware of the need to provide their own software (just as they need to provide network cards). As a backup, ASA will provide five extra copies each for PC and Mac anti-virus software. ECO will provide anti-virus software for their computers.

Software support

ASA will support for McAfee Antivirus software for PCs and Virex for Macs. As a backup, and to check for fatal errors, there should be one alternative product on a designated PC and Mac to check the reliability of the scanning software.

Installation

The network administrator is responsible for installing the updates on all public workstation and any other ASA computers such as the MPC, the ET shop, the bridge computer, etc. The network administrator is further responsible for installing software and updates on grantees' computers.

Network Administrator Responsibilities

Upon receiving virus signatures, the network administrator will write-protect the uncompressed files and put these files out on a publicly accessible directory, such as /public on Vexor.

The network administrator will then post a notice regarding the new signatures along with instructions on how to install them.

The network administrator will install the new signature files on all public PCs within 24 hours of receipt.

The network administrator must run a complete daily scan on the /public and /home directories on Vexor and clean / remove any affected files.

The network administrator will ensure that all proprietary systems such as laptop computers are backed up and have current anti-virus software installed prior to loaning out or putting them out for use.

During each port call, the on-coming network administrator is responsible for bringing updated virus signatures as well as any other software updates to the ship.

Upon the beginning of the cruise, the network administrator will hold a mandatory orientation session for ***all new*** users, including science, ECO and ASA addressing scanning virus issues. During this session, the network administrator will demonstrate how to scan users' home directories, removable media and attachments.

User Responsibility

All individuals which have their own PCs connected to the network must install the virus signature files within 24 hours of the notice being sent to users. The network administrator must verify that the signatures have been correctly installed and that a scan of the system using the new signatures has been conducted. Any user that refuses to cooperate within a reasonable amount of time will have their account disabled to prevent infection of the network files.

All users will be asked to notify the network administrator upon discovering viruses.

The network administrator will maintain a log of virus infestations and will report on activities and updates on a weekly basis (as part of the weekly report)

Revisions

This policy should be reviewed after three months and updated as necessary.