Administrating NetBSD-Athena 8.2

These instructions explain how to administrate your NetBSD-Athena system. Topics covered include making your machine private, changing your root password, enabling remote access and other services, adding new users, and sharing a DOS partition. Please note that nearly all of the instructions must be run as root. If you encounter any problems administrating your system, please send mail to `netbsd-help@mit.edu`.

`PUBLIC` and `AUTOUPDATE`

The NetBSD-Athena installation, like the installation for Sun and SGI Athena workstations, configures your machine as a public workstation. This means that periodically the reactivate script will erase most local changes and restore the default settings, including the root password. Many people may wish to disable this behavior. To do so, edit `/etc/athena/rc.conf` and set `PUBLIC` to `false`. When `PUBLIC` is `false`, the machine is no longer a public workstation. The reactivate script will still run updates when necessary, but it will preserve local changes.

Your NetBSD-Athena system is also configured to automatically update to new releases of NetBSD-Athena. You should probably leave this enabled to receive patches as they are released. If, for some reason, you want to disable this behavior, you can edit `/etc/athena/rc.conf` and set `AUTOUPDATE` to `false`. If you have configured a custom kernel for your machine but wish to take automatic updates, you should touch `/netbsd.custom`. If that file exists, the autoupdate will not overwrite your custom kernel, but will upgrade other files as necessary.

Changing the root password

After installing NetBSD-Athena, your root password is set to the current public root password. You can run `tellme root` to determine what the password is. To change your password, run (as root) passwd. Note that if your system is configured as a public workstation, the reactivate script will reset it to the default. *If you configure your machine as a private system, you should change the root password from the default.*

Enabling services

NetBSD-Athena uses the `mkserv` program to configure various workstation services. Note that running `mkserv` will automatically configure the workstation to not be `PUBLIC`.

Enabling remote access

If you want the ability to login to your system remotely, then you must enable remote access. To do so, run `mkserv remote`. This will ask you a few questions about which users should have access, and then enable inbound telnet and ssh connections.

You will probably want to install a srvtab file on your machine, otherwise inbound telnet connections will not be encrypted. If you don't already have one, email `accounts@mit.edu` and request a srvtab for your hostname. Follow the directions in the reply, and install the srvtab file in `/etc/athena/srvtab`.

Enabling discuss

The `mkserv` command also allows you to setup a discuss server, by running `mkserv discuss`. Contact SIPB (`netbsd-help@mit.edu`, x3-7788) for more information about running a discuss server.

Adding/removing users

The easiest way to control who can log into your NetBSD-Athena system is to use `/etc/athena/access`. Each line in `/etc/athena/access` specifies an account and its access privileges. A line should contain a username, some whitespace, and then a list of access flags. Flags include "l" for local login access, "r" for remote login access, and "L" if the account should be considered local (suppressing Athena-specific login activities for this account). Using the access file to add non-local users eliminates the need to edit `/etc/master.passwd` and similar files.

Adding a local user (with the "L" flag) still requires a password file entry, along with a local home directory. To add a local user,

1. run `vipw` and add a line for the new local user. If the user has an Athena account, you may want to specify the same userid and groupid as the Athena account. (Run `hesinfo` *username* `passwd` to determine these numbers.)
2. run `passwd` *username* to set the local password for the user.
3. run `grep` *username* `/etc/master.passwd >> /etc/master.passwd.local` to add the user to the local password file.

Users familiar with older methods of controlling remote access should note that `/etc/noremote` and `/etc/nocreate` are ignored when using `/etc/athena/access`. For more information, run `man access` on your system. Note that if you give remote access to users, you will also need to enable remote access to your system. Also note that the contents of `/etc/athena/access` will be lost if the workstation is configured to be PUBLIC.

Other configuration variables

There are other useful variables in `/etc/athena/rc.conf` (mostly Athena related) and `rc.conf` (NetBSD related). If `SYNCCONFIG` is `true`, any variables in `/etc/athena/rc.conf` with a `*` in their comments will propagate down to NetBSD's `/etc/rc.conf`, so changes to those options in `/etc/rc.conf` will go away after a reboot. On the other hand, if `SYNCCONFIG` is `false`, then setting `*`'d variables in `/etc/athena/rc.conf` has no effect, and those options must be set in `/etc/rc.conf`.

You can change your machine's hostname, IP address, network interface card, and NIC media selection by editing the first four entries of `/etc/athena/rc.conf` if `SYNCCONFIG` is set. If it's not, then set the hostname in `/etc/rc.conf`. The network interface is determined by the file `/etc/ifconfig.ep0`, replacing `ep0` with your network device. The contents of this file include the IP address and NIC media selection.

If you plan on exporting filesystems with NFS, you will need to set `NFSSRV` to `true` in `/etc/athena/rc.conf` or `/etc/rc.conf` as appropriate. You may also be interested in setting `ipfilter`, `ipmon`, `apmd`, and others in `/etc/rc.conf`. Run `man rc.conf` for more information.

DOS partitions

If you have a primary DOS partition on the same disk as your NetBSD partition which you wish to be able to access from NetBSD, you can run (as root):

```
add netbsd
dospart
```

This will mount your partition on `/dosc`. If your DOS partitions are extended, the `dospart` utility will not configure them properly. Contact SIPB (`netbsd-help@mit.edu`, x3-7788) for help with extended partitions.

Using the NetBSD package system

NetBSD includes a "package" collection that includes many popular third-party applications, system utilities, and games. Much of this collection is already available on Athena by adding the appropriate locker, but you may still wish to install some of the software locally. The package system allows you to either install prebuilt binaries, or build the software yourself. Information on how to use the package collection is available at
`http://www.netbsd.org/Documentation/software/packages.html`.

Building a custom kernel

The NetBSD-Athena installation uses a default kernel that supports most common hardware. If you have hardware not supported by the default kernel, want to change various default system settings, or develop kernel-level code, then you will need to build a new kernel. You may also want to remove unused drivers from the default kernel. The kernel prints out during the boot each driver that is used, so any device *not* mentioned in the boot messages can be taken out. You can view the boot messages by running `dmesg`.

The following procedure should get you started.

1. To build a kernel, you'll need the kernel sources. There is a NetBSD 1.3.2 kernel source tree in AFS at `/afs/dev.mit.edu/project/sipb/netbsd/1.3.2/src/sys/`, or you can fetch your own from `ftp.netbsd.org:/pub/NetBSD/NetBSD-1.3.2/source`
2. Create a build directory, for example `/var/tmp/build` (remember that /var/tmp gets automatically cleaned of old files, so you may want to put the build directory somewhere else for persistence).
3. Create a configuration file. NetBSD kernel options are specified in configuration files that can be found in the kernel source subdirectory `arch/i386/conf`. The configuration file for the default NetBSD-athena kernel is `ATHENA`. You may want to use this as a starting point. Traditionally, the name of the configuration file is the all-caps version of the hostname that the kernel will run on. For more information on configuration file options, see `man 4 options` and `man 8 config`.
4. Configure the kernel. In the directory with the new configuration file `CONFIG_NAME`, run

   ```
   config -s <kernel source directory> -b <build directory> CONFIG_NAME
   ```

   This populates your build directory with various files that direct the creation of the kernel.
5. Build the kernel. Change to the build directory and run

   ```
   make depend && make
   ```

   The kernel should build. If you get errors, contact SIPB (x3-7788, `netbsd-help@mit.edu`).
6. Install the kernel. Save your old kernel (in case there are problems), and (as root) install the new kernel.

   ```
   mv /netbsd /onetbsd
   cp netbsd /
   ```

7. If your system doesn't boot with the new kernel, you can have it boot the old kernel by hitting a key at the bootloader prompt, and then typing "`boot onetbsd`."
8. If you use a custom kernel, you should touch the file `/netbsd.custom` to prevent the autoupdate script from replacing your kernel. If the update requires a new kernel, you will need to build a new custom kernel and run the update manually. If you need assistance, contact SIPB (x3-7788, `netbsd-help@mit.edu`).

The above procedure builds a 1.3.2 kernel. If you are interested in building a kernel from the latest NetBSD sources, you'll need to fetch a copy of the -current NetBSD source tree and follow roughly the same procedure using that. Note that building and running a -current kernel may require you to build various other software packages. If you plan on using -current source, be sure to follow the `current-users@netbsd.org` mailing list. You can also ask questions on the netbsd zephyr class (`zctl add netbsd \* \*`, `zwrite -c netbsd`).

Where to get more information

Start with `http://www.netbsd.org/`, the home site for NetBSD. The site contains information on using NetBSD, and also includes archives of the various NetBSD-related mailing lists.

Document revision: 1.4. The latest version of this document may be obtained in person from the SIPB office (W20-557), or may be printed out with: `attach sipb; dvips -hduplex -P`*printer* `/mit/sipb/doc/netbsd-admin.dvi`.