

Installing ARB on OS10.3 V1.3

These notes document what I did to get ARB running on a clean install of OSX10.3 which is then upgraded to 10.3.5. There are a number of unanswered questions due to gaps in my knowledge of arb, the MacOS and fink. However the finished product does seem to work.

If you do an upgrade of an older version of OS10 to 10.3 the terminal shell will remain as csh. All the instructions below are for a bash shell. While its easy enough to make the terminal.app load the bash shell, I don't know how to make bash your default login shell. It may not even matter.

These notes are based on ones produced by Dr Mike Dyall-Smith and other notes from Tim Beckenham. Sections were also used from the fink FAQ.

Tim also helped in the creation of these notes and in troubleshooting.

Please read all the documentation before beginning.

Installation

- 1) Goto the Energy Saver control panel and set everything to "never"
- 2) Goto Applications -> Utilities -> Disk Utility -> First Aid tab. Click on "Repair Disk Permissions"
- 3) Install the latest OSX Developer tools. In Panther this is called the Xcodes disc. Put in the developers disc and double click Developer.mpkg. Click on custom install and make sure the Cross-development -> gcc 2.95.2 option is ticked. This will install the gcc compiler arb needs. Leave all the other options as they are.
- 4) Generally here I would say install X11 but this produced problems later on (noted below).Fink will install XFree as part of the arb install so I'd advise not installing X11. If you already have it installed you will probably have to remove it. Arb would not compile for me until I did..
- 5) To get ARB for OSX you need to install the Fink management program. Download the latest version of Fink from...

<http://fink.sourceforge.net>

From the fink FAQ.....

Double-click "Fink-0.7.1-Installer.dmg" to mount the disk image, then double-click the "Fink 0.7.1 Installer.pkg" package inside. Follow the instructions on screen.

At the end of the installation, the pathsetup utility will be launched. You will be asked for permission before your shell's configuration files are edited. When the utility has finished, you are set to go!

I always get an error at this stage, but when you check the appropriate files the proper changes have been made.

To make sure that the pathsetup utility has worked, check the .bashrc or the .profile (on my machine it was in .profile) file in your home directory. It should contain the following line. And yes, the leading "." needs to be there.

```
test -r /sw/bin/init.sh && . /sw/bin/init.sh
```

If anything goes wrong during this process, you can try again by launching the pathsetup application which appears on the installer disk, or by running (from the command line in a Terminal.app window)

/sw/bin/pathsetup.sh

(This step should also be repeated by any other users on your system: each user must run pathsetup in his or her own account.)

6) To get access to the latest version of ARB, you need to tell fink to check for unstable packages. To allow fink to do this you need to edit the following file.

/sw/etc/fink.conf

You'll need to use "sudo" to do this. When you issue a sudo command you will be asked for your password before it will continue. ie

sudo pico -w fink.conf

Look for a line starting with "Trees:" It should look like

Trees: local/main stable/main stable/crypto local/bootstrap

Modify it to look the same as below, with the added unstable entries (in bold)

Trees: **unstable/main unstable/crypto** local/main stable/main stable/crypto local/bootstrap

Save and exit the fink.config file by using the commands below. **Ctrl-x** means hold the control key down and hit "x" at the same time.

Ctrl-x

Y

7) Open a new Terminal.app window and run the following:

fink configure

You will be asked a series of questions about how fink should work. On my machine it didn't want to look for tarballs in /sw/src so I added that. Apart from that though you can generally stick with the defaults.

8) I then run the following fink commands from the prompt. I have never been able to get fink to work properly on our private subnet, even with the proxies configured correctly and we have no firewall. I suspect that the lack of NAT is what causes the problem. I have also tried setting fink.conf to look at local mirrors (Australia) with little success.

fink index

fink selfupdate

Fink will now ask you to choose a self update method. I use rsync

At this point I got the following error. The resolution was to do exactly as it says.

"Since you have gcc 3.3 installed, fink must be bootstrapped or updated using that compiler. However, you currently have gcc 2.95.2 selected. To correct this problem, run the command: sudo gcc_select 3.3"

sudo gcc_select 3.3

Then re-issue the commands....

fink index

fink selfupdate

It may ask you if you want to look at the new list of file mirrors. I chose No.

It will now begin to update itself. At the end it will tell you that you have updated the core packages and now you should update the other packages with the command..

fink update-all

It will ask you for the password. This is your login password.

Finally its time to install arb

fink index

fink install arb

In this step you get asked more questions. i went with the defaults. It will now begin to download the packages it needs for arb. This may take awhile. fink will the begin to compile arb. This will take even longer.

During this stage I got errors saying that fink couldn't continue the install because it found pre-existing X11 directories and it wouldn't over write them. The error was....

Selecting previously deselected package xfree86.
(Reading database ... 4957 files and directories currently installed.)
Unpacking xfree86 (from .../xfree86_4.4.0-1_darwin-powerpc.deb) ...
WARNING: if you compile X11 applications against this XFree86 release,
you will *not* be able to run them if you decide to revert to Apple's
X11 provided with Panther.

You have an existing X11 installation in /usr/X11R6 and/or /etc/X11.
This package refuses to overwrite these. Remove them, then tell Fink to
install xfree86 again. (The package won't be recompiled.) If you want
to keep your X11 installation, install system-xfree86 resp. system-xtools
instead to make this known to Fink's package system.

Press Return to continue.

I wasn't sure how to "install system-xfree86 resp. system-xtools ". I tried...

fink install system-xfree86 resp. and

fink install system tools

...but just got errors. So I then issued the following commands to remove the offending
directories.

cd /usr

sudo rm -rf X11R6

cd /etc

sudo rm -rf X11

fink install arb

9) ARB installed ok. But the XDarwin window system that came with it is woeful. I updated it
with apples version and it is now much better. You can download the latest version from
<http://www.apple.com/macosx/features/x11/download>. Once you finish the upgrade, you'll
have a copy of XDarwin and X11. X11 is still far superior to the updated XDarwin. So to use
X11 to run arb, see the section below entitled **Changing window system from XDarwin to
X11.**

10) I modify the etc/hosts file as well to give arb a static hostname for the computer to work
with. The name I choose is the Rendezvous name. You can find it here...

System Preferences -> Sharing

Under the Computer Name entry box there is an edit button. Click that. This will show you
what your local hostname is.. it will be something like
computername.local

Start up a terminal session and enter the commands....

```
cd /etc  
sudo pico -w hosts
```

You will see something like this....

```
#  
# Host database  
#  
127.0.0.1          localhost  
255.255.255.255  broadcasthost  
::1              localhost
```

I make the following change, indicated in bold (the trailing "." is meant to be there)

```
#  
# Host database  
#  
127.0.0.1          localhost  
127.0.0.1          computername.local.  

```

12) Start XDarwin. After a few moments a terminal window will appear. Issue the arb command. ARB should fire up ok.

Troubleshooting

PT server error.

ARB Error: When saving /sw/share/arb/lib/pts/user1.arb~: Permission denied.

Fix.

Check permissions on /sw/share/arb/lib/pts.

```
drwxr-xr-x    root          admin          pts
```

Change to

```
drwxrwxr-x    root          admin          pts
```

With the following commands

```
cd /sw/share/arb/lib  
sudo chmod g+w pts
```

--

PT Server error2

If I go Probes -> PT server Admin ->Check server I get....

```
Trying ::1  
connect to address ::1 refused  
Trying 127.0.0.1  
connect to address 127.0.0.1 refused
```

Even with this error the PT Server works.

arb_tcp.dat error

By default the arb_tcp.dat is read only. So when you go to update it via Probes -> PT Server Admin -> Create Template it won't let you edit it.

Fix.

Issue the following commands

```
cd /sw/share/arb/lib  
sudo chmod g+w arb_tcp.dat
```

Xfig Helpfiles

XFig tries to open up its html help files in Netscape. To modify this behaviour you need to change the settings in the Fig file which can be found at /sw/etc/app-defaults/

sudo pico -w Fig

Initial Settings:

Fig.browser: netscape -remote 'openFile(%f)' || netscape %f

Change to:

Fig.browser: /Applications/safari.app/Contents/MacOS/Safari %f

Searching the World Wide Web

In arb there is an option to search the world wide web. You can find it under Properties -> Search World Wide Web (WWW). This link still refers to Netscape. Currently working on replacing this with mozilla.

Extras

Install ghostview

Install this application to add extra functionality to arb.

```
fink install gv
```

Changing window system from XDarwin to X11

While the upgraded version of XDarwin is much better than standard, it still isn't as good as apple's X11. So I configure arb to use that instead. Start X11 by clicking on its icon. You'll find it in...

Applications -> utilities -> X11

After a few seconds a terminal window should pop up. Start the pico editor by issuing the following command

```
pico -w .bashrc
```

And enter the following lines

```
ARBHOME=/sw/share/arb; export ARBHOME  
LD_LIBRARY_PATH=/sw/share/arb/lib  
export LD_LIBRARY_PATH  
PATH=/sw/bin:${PATH}  
export PATH
```

Save the file by typing

```
Ctrl-x  
Y
```

You can now open arb from an X11 terminal session. While X11 seems to be faster than XDarwin, its use currently breaks a few things. Ie

When you open Xfig an error comes up saying the Fig config file is very old or missing. The Xfig html help files will no longer open in Safari. I assume these problems are linked but currently don't know how to fix them.

Created by Todd Black and Tim Beckenham with help from Dr Dyall-Smith and Stephen Pike

Created from notes originally written by Dr Mike Dyall-Smith

These original notes can be found here.

http://www.microbiol.unimelb.edu.au/micro/staff/mds/ARB_OSX/ARB_to_MacOSX.html

30 September 2004

Version History

V1.0	Initial rough install guide
V1.1	Added fixes for Xfig help files
V1.2	Added support for X11
V1.3	Updated instructions for new version of fink 0.7.1 and OS 10.3.5