[Credit John Swinbank & Dave Russell]

These instructions have been tested on Fedora release 13 (Goddard) on the AMD64 platform. This system was freshly installed using the "Fedora 13 Desktop Edition" 64 bit CD image
. All the available system updates were applied, but no additional software installed or customisation performed.

This instructions are intended to be read in conjunction with the documentation supplied with the various software packages!

Note that $ indicates commands which should be typed at a terminal prompt as a normal user. # indicates commands which are typed at a root prompt (ie, with elevated privileges).

Preparation

Install the required packages from the Fedora repository:

```
$ su   # yum install gcc gcc-c++ gcc-gfortran libX11-devel libXt-devel ncurses-devel slang-devel slang-slsh perl-ExtUtils-MakeMaker wget
```

Also the following for Fermi Science Tools:

```
# yum install libXft-devel libXext-devel libXpm-devel libpng-devel
```

You can now press ctrl+d to leave the root level shell and proceed with the installation.

S-Lang Stats Module

For S-lang we require the stats module : download it from here (using your browser) or wget, then untar and uncompress it:

```
$ wget
```

http://space.mit.edu/cxc/software/slang/modules/stats/src/slstats-1.0.2.tar.gz

```
$ tar zxvf slstats-1.0.2.tar.gz
```

Then configure and build it:

```
$ cd slstats-1.0.2/
$ ./configure
$ make
$ su
# make install
```

Press ctrl+d to leave the root environment.

This will install the module into /usr/local. You now need to instruct S-Lang to look for scripts in that location. Add the following lines to
$HOME/.slshrc
(creating the file if necessary):

```
append_to_slang_load_path
```

```
("/usr/local/share/slsh/local-packages"$);
  set_import_module_path
("/usr/local/lib/slang/v2/modules:"$+
get_import_module_path ());
```

To use the module in a S-lang script (more info here), it must be loaded into the interpreter:

```
  $  slsh
  slsh>  require ("stats");
```

To quit slsh:

```
  slsh:> quit
```

Heasoft 6.9

HEASoft includes FTOOLS (FITS

manipulation tools) and XANADU (X-ray data analysis).
Any problems with your Heasoft installation? First check for clues here
then
here
Detailed installation guides are also available here and here

You'll need approximately up to 900 Mb free disk space
Download the source (300 Mb), either using

this direct link
or by visiting
the Heasoft website
.
Untar and uncompress it in the directory you want to unpack it in
:

```
$ tar zxvf heasoft6.9src.tar.gz
```

Then configure it. You need to specify the installation location as part of this process: we'll use your home directory in this example.
NB if you don't use your home directory, you'll need to change

the other instructions to match!

```
$ cd heasoft-6.9/BUILD_DIR
$ ./configure --prefix=$HOME/heasoft > config.out
```

2>&1

Wait until the configuration has finished, and build (this next step can take a very long time - don't kill the process)

```
$ make > build.log 2>&1
```

Then install the software:

```
$ make install
```

At the start of your

session, the heasoft environment must be initialised. We can make that happen automatically:

```
$ echo "export HEADAS=$HOM
```

```
E/heasoft/x86_64-unknown-linux-gnu-libc2.12/" >> $HOME/.bashrc
  $ echo ". $HEADAS/headas-init.sh" >> $HOME/.bashrc
```

Note that the platform string above (x86_64-unknown-linux-gnu-libc2.12) might vary if Fedora release updated libc

packages. Check what has been created in $HOME/heasoft to confirm the correct value for your system.

You will need to open a new terminal for this to take effect. Please do that, and close the old one, before proceeding to the

next section.

Now you are ready to run the various Heasoft software packages: Introduction,

tutorials (where available) or manuals: FTOOLS
XANADU: XSPEC

XRONOS

XIMAGE

Isis 1.6.0

ISIS interactively

fits X-ray spectra.

Any problems with your ISIS installation? First check for clues here

then (more generally) here

A detailed installation guide is also available here

Download the source. You can do this directly with the command:

```
$ wget
```

ftp://space.mit.edu/pub/cxc/isis/isis-1.6.0-12.tar.gz

or by visiting the ISIS

website

Untar and uncompress it in the directory you want to unpack it in

```
$ tar zxvf isis-1.6.0-12.tar.gz
$ cd isis-1.6.0-12/
```

Configure and

build:

```
$ ./configure
--with-headas=
$HEADAS
--with-slanglib
=/usr/lib64
```

```
$ make
```

There are some build in diagnostic tests. Before proceeding,

run them and check that everything is ok:

```
$ make check
```

If all the tests pass, you can install the software by running:

```
$ su
```

make install

Press ctrl+d to leave the root environment.

Now you are

ready to run ISIS: Tutorial Manual

Fermi Science Tools

(v9r15p2)

Unfortunately, numerous errors in the build system

for the Fermi Science Tools mean that compiling them from

scratch is effectively impossible on this platform. However, it is

possible to download and install a pre-compiled version from the Fermi

Science Support Centre .

Choose the version compiled for

Scientiifc Linux 5 libc2.5, and 32 or 64 bit depending on your

platform. If you're not sure, check by running:

```
$ uname -m
```

A 64 bit machine will return x86_64 ; a 32 bit machine will return

i686

.

After you have identified the

correct package, download with your browser or with wget:

```
$ wget
http://fermi.gsfc.nasa.gov/ssc/data/analysis/software/tar/ScienceTo
```

ols-v9r15p2-fssc-20090808-x86_64-unknown-linux-gnu-libc2.5.tar.gz

Note that the instructions provided by FSSC for installing the binary

distribution also contain some errors. In particular, you should skip steps 3

& 4. Installation proceeds as follows:

$ tar zxvf

ScienceTools-v9r15p2-fssc-20090808-x86_64-unknown-linux-gnu-libc2.5.tar.gz

You may wish to move the resulting files to a more conveniently

memorable location:

```
$ mv ScienceTools-v9r15p2-fssc
```

-20090808-x86_64-unknown-linux-gnu-libc2.5 $HOME/fermi_science_too

ls

Then set the $FERMI_DIR environment variable to

point to the newly-installed tools:

```
$ export FERMI_DIR=
```

$HOME/fermi_science_tools/x86_64-unknown-linux-gnu-libc2.5

You may wish to add this to $HOME/.bashrc , so that it happens

automatically when you log in:

```
$ echo "export
```

```
FERMI_DIR
=$HOME/fer
mi_science_
tools/x86_64
-unknown-lin
ux-gnu-libc2.
```

```
5"
>>
$HOME/.bashrc
```

In order to access the science tools, you can now

run:

```
$ source $FERMI_DIR/fermi-init.
```

sh

Note that rather than integrating with the rest

of the system, the Fermi Science Tools include an

additional (and often outdated) copy of a number of standard

system tools (such as Python, tcl/tk, etc). For the duration of

your session after you source the fermi-init.sh script, you

will automatically use the Fermi-supplied tools rather than

your system defaults. Therefore, it is strongly suggested you only

source fermi-init.sh when you specifically need to work with

Fermi tools, rather than as part of your normal login process!

SAOImage DS9 6.1.2

DS9 is a tool to view

and analyze astronomical images. It is available for download

from its website either directly using your browser or

using wget on the command line. Grab the "Linux64"

version if you have a 64 bit machine, or "Linux" for 32 bit. If

you're not sure, check using:

```
$ uname -m
```

"x86_64" indicates 64 bit; "i686" 32.

After

downloadin
g, it can be
uncompress
ed and run
directly
without any

further configuration:

```
$ wget http://hea-www.
```

harvard.edu/saord/download/ds9/linux64/ds9.linux64.6.1.tar.gz

$ tar zxvf ds9.linux64.6.1.tar.gz

$ ./ds9 &

You may

wish to move it to a location on your path so you can access it

without specifying the full location:

$ sudo mv

ds9 /usr/local/bin

$ ds9 &

AIPS 31DEC10

AIPS ("Astronomi

cal Image Processing System") is a radio data

reduction/manipulation package: for details, see its

website

. In particular, for problems

regarding the Install Wizard, check here

, otherwise see here and here

. If you are replacing a previous installation of AIPS,

please clean up first: follow these

instructions (half way down part 2).

The following instructions are for binary

installation, not "text" (ie, compilation from

source). This is generally to be recommen

ded, as AIPS is notoriously picky about

compilers (see the vaguely hilarious note on

the website). You'll need approxima

tely 1 GB free disk space.

cvs is

required:

```
$ su
# yum install cvs
```

Press ctrl+d to leave the root environm

ent.

Next download

the small Install Wizard file (a

Perl script) from this direct link

or by using wget. Choose a

new directory to install AIPS, cd

to it and put the file there. Make the

install file executable then execute

it:

$ mkdir aips

```
$ cd
aips
$ wget
ftp://ftp.ao
```

c.nrao.edu/pub/software/aips/31DEC1

```
0/install.pl
$ chmod +x install.pl
```

```
$ perl install.pl -n
```

Read & follow the on-screen instructio

ns. Refer to the more detailed

notes here at each step. The

following options seem to work for

me, but you may wish to customize

them.

Note that the numbers

are not actually consecutive(!)

Screen 0 -- hit enter Screen 4

-- hit enter (ie accept the

default choice) Screen 4b -- hit

enter (ie, allow yourself to have

write access) Screen 5 -- choose

a name;
can be
whatever
you like

Screen 5a -- enter "y" Screen

5b -- accept the default (L

NX64 on a 64 bit machine)

Screen 6 -- hit enter to accept L

OCALHOST Screen 7 -- add the

data area suggested (ie, /home//DAT

A/LOCAL HOST_1) Screen 8

-- press "A" to accept current

settings, then type A4

Screen 9

-- press "A" to accept current

settings Screen 9b -- press "A"

to accept current settings Screen

11 -- press "A" to accept, then "Y"

to start the installation.

You will now need to wait for several

minutes while the data files are

downloaded and installed.

Eventuall y, the configurat ion

system will set up configurat ion for a

"midnight job" (MNJ; ie, an

automatic update of the AIPS files): just

hit return to acknowledge the

default settings, then again to

enter a blank cvs password

(as instructed), then again

when "ready to proceed" (you can

examine thedo_daily.localhost file if

you plan to run a midnight job). You

will then be prompted to hit

enter for a fourth time(!) before

finally being told:

AipsWiz: That's it. You should

now have the latest AIPS!

Enjoy.

Edit your $HOME/.bashrc to ensure

that AIPS is initialised when you

log in:

$ echo "source

$HOME/aips/LOGIN.SH" >> ~/.bashrc

Now you are ready to run AIPS.

The cookbook can be viewed

online here and as a pdf

here

CASA

3.0.2

Note that before

downloading CASA, NRAO

encourage you to register with their

portal at so they can notify

you of updates etc. This is not

actually required for installatio

n,

though.

CASA is

releasing the new version 3.0.2 this

week (10 June 2010). Downloa

d the release candidates

(which should turn into the final

release, probably by the time you

read this) which are: here for

a 32 bit machine or

here

for a

64 bit

machin

e

(See

the previous

notes on uname

to

figure

out

which

you

have)

Pleas

e read these notes

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with the official

documentation at

You

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dn't

need

it, but version

3.0.1 and other

previous version

ns of

CASA

can

be

downl

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from .

After

downl

oadin

g,

unpack the file:

$ tar zxvf casap

y-####

######

##.tar.

gz

This

will

create

a

directory with a

long unwieldy

name

-- you

might

prefer to move

that to some where

more

conve

nient:

$ mv casapy-###

######

#

$HOM

E/cas

a

Change to that

directory and

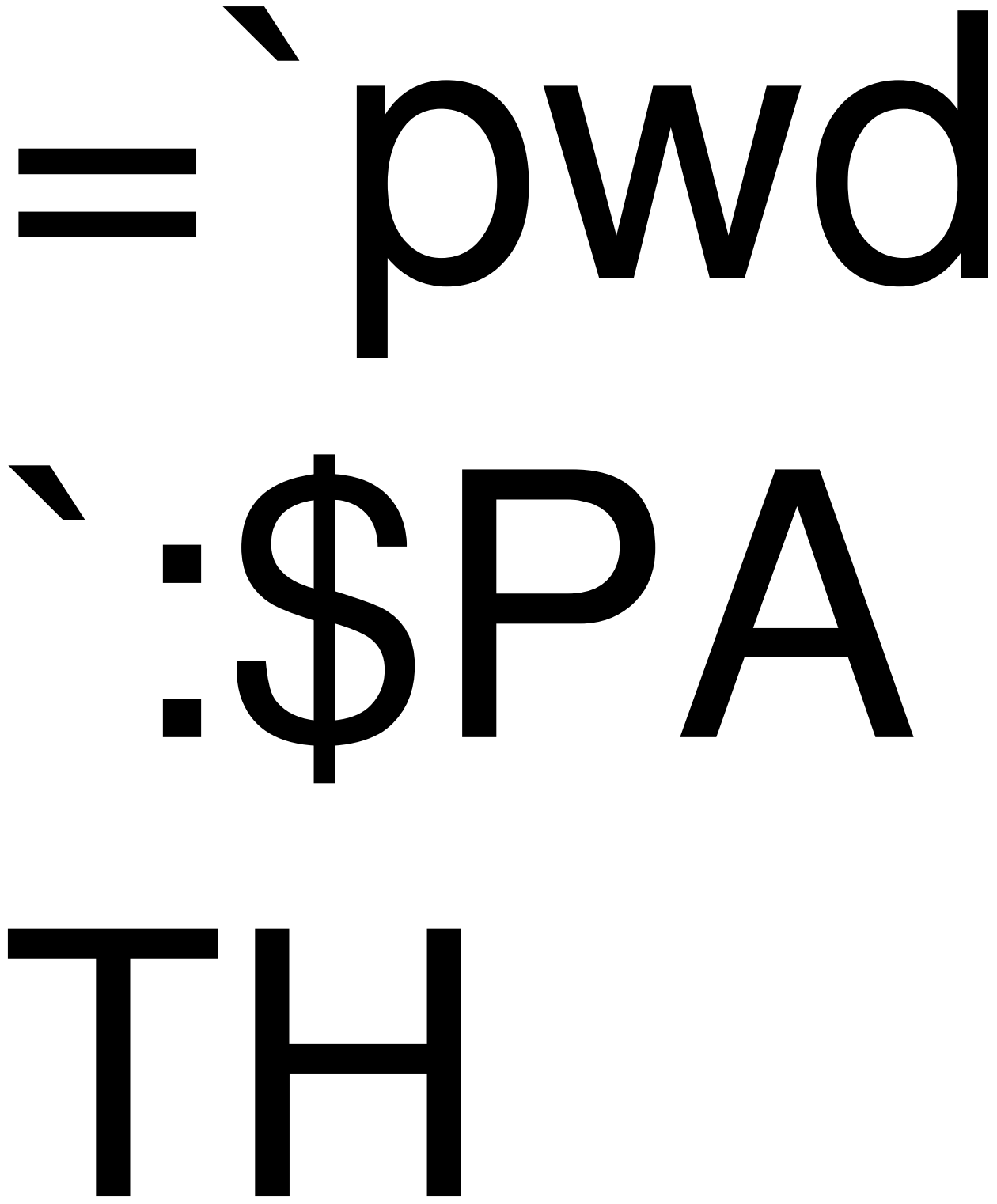
add it to your

path:

$ cd

$HOME/casa


$
export
PATH


= `pwd
` :$PA
TH

Then you need

to run:

$ su

yum install

policycoreutils-gui

syste m-con

fig-selinux

In the graphical

windo

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which

appea
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"System Default

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need

to do this once.

You can now

start

CASA

$

casapy