Common Software tools used at PASSCAL

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Category: Brief detail on listing PASSCAL software, other available tools from BRTT and in PASSOFT plus basic troubleshooting.

Objective: Provide a brief listing of software resources commonly used at PASSCAL and by our users, and a guidance on how to proceed when errors.

OWNER	PLATFORM	WHERE TO FIND IT
PASSCAL	Source code	ftp://ftp.passcal.nmt.edu/passcal/software/src
	Linux rpms	ftp://ftp.passcal.nmt.edu/passcal/software/linux/
	MacOS X	ftp://ftp.passcal.nmt.edu/passcal/software/osX/
	Solaris Pre-compiled Binaries	ftp://ftp.passcal.nmt.edu/passcal/software/solaris/
	DMC Programs	pod and rdseed ftp://ftp.iris.washington.edu/pub/programs/
BRTT: ANTELOPE	This Antelope software runs in Unix environments on four architectures: * Sun Solaris SPARC * Linux Intel x86 * Apple Macintosh Mac OS X * Linux X-scale processor (embedded in the Kinemetrics Marmot).	PASSCAL USERS AND OTHER IRIS MEMBERS CAN REQUEST ANTELOPE FROM: http://www.iris.edu/manuals/antelope.htm http://www.iris.edu/manuals/antelope_irismember.htm
IRIS	Other Seismology Software and Manuals from IRIS/DMC SEED Tools	http://www.iris.edu/manuals/
ORFEUS	Seismological Software Library	http://www.orfeus-eu.org/links/softwarelib.htm
QUANTERRA	Software and tools for groups who use Quanterra seismic dataloggers	ftp://quake.geo.berkeley.edu/pub/quanterra/
Others	k3b – Free software CD and DVD application for GNU/Linux and other Unix like operating systems	http://k3b.plainblack.com/download

Table 1. Downloads and sources for PASSCAL, IRIS/DMC BRTT and other tools

TOOL	USAGE
con_DoFTP gui_DoFTP	To send the data to PASSCAL via FTP. Con_DoFTP to be used in the command line; gui_DoFTP is a graphical user interface.
DoSubmitting	To send the data to PASSCAL via orbxfer2 (antelope), to be released soon

fixhdr	fixhdr is a GUI interface that allows the user to make changes to mseed fixed header values, change the endianesss of the mseed headers, and apply bulk-timing shifts. fixhdr also has a batch mode (-m option) that can be run with template files created either by fixhdr or from scratch. Type fixhdr on the command line to launch the program.
mseedhdr	Print the fixed header values of each block of a mseed volume
logpeek	Produces a graphical display of a Reftek 72- and 130-series DAS log files.
tkeqcut	GUI to configure input for segymerge and qmerge
rt130cut	Cut raw data from an RT-130 micro-drive or from an archive as written by rtpd.
ref2mseed	Convert compressed Reftek format to MSEED format.
ref2segy	Convert compressed Reftek format to SEGY format.
ref2log	Produce only Reftek logfiles
chunky	Creates ZIP files for raw image backup
unchunky	Generates mseed, log, ref, or SEGY files from ZIP, TAR, BZIP files generated by chunky
neo	Generates .ref and log files from/to ZIP files
k3b	Software to burn CD/DVD (http://k3b.plainblack.com/download)
seed_edit	Edits miniseed headers
seedsniff	Convert FDSN SEED format into readable ASCII text
seedsplit	break dataless seed volume into HAR000 components for editing.
qlog, qedit	qlog - processes Quanterra console logs, event logs, and opaque data files qedit - Edit record header information in miniseed or Quanterra data files
ref2mseed	Convert a ref file to mseed volumes
PQL, PQLX	PASSCAL QUICK LOOK, software to visualize waveforms
rdseed	read FDSN SEED format volumes
verseed	verifies a FDSN format
PDCC	Portable Data Collection Center - a toolkit for seismic network operators to store and manage seismic instrument metadata and waveform data in SEED format.
evalresp	evaluate response information and output to ASCII files using rdseed produced RESP files
To build mseed:	dbbuild, dbe, dbpick,miniseed2days, minisee2db,mk_dataless_seed, etc,
Checks/fix:	chk_miniseed,dbcheckseed,fix_miniseed,patch_miniseed,seed2db,dbverify,dbversdwf, etc
Other tools:	dbedetect, trexcerpt, trsample, dbnoise, dbwfmeas, displayspec, dbpick, tkdbpick, trdisp, etc
Dataless:	mk_dataless_seed, seed2db

Table 2. Software you may need from PASSCAL, IRIS/DMC BRTT and others

Troubleshooting passcal software

MOST COMMON ERRORS

a. Old versions of software: please make sure you have the latest PASSCAL software release. To download the most current version please refer to the following link:

http://www.passcal.nmt.edu/content/software-resources

b. Wrong Path or Environment: please follow instructions described in the README that is part of every software release.
c. Version of PYTHON: PASSCAL software is compiled with the proper versions of python; older versions than 2.4.6 or versions alpha releases (2.7) may cause trouble.

Recommendations:

a. Antelope, PQL, and PASSOFT are constantly being updated. It is not recommended you update software in the field on PASSCAL laptops. Our laptops are tested and shipped from PASSCAL with recent versions of software. Keep up to date on your personal machines to ensure you get the latest and greatest, but always test it before you take it into the field!
b. For PASSOFT, PQL, and Antelope to work, your shell environment must be set up correctly. The easiest way to set up your shell environment is to source an environment setup script. It is recommended that you source these setup scripts from your src files so that the software is always available. While there is an environment setup script for the bash shell, csh is the most often used and tested shell with PASSOFT and PQL. We recommended that you use csh with these programs.

Setting up csh

Add these lines to your ~/.cshrc file:
source /opt/passcal/setup/setup.csh
source /opt/antelope/**version number**/setup.csh
(Some versions of OS-X require that you copy the contents of the setup.csh file into your .cshrc file)

Setting up bash

Add these lines to your ~/.bashrc file:
source /opt/passcal/setup/setup.sh
source /opt/antelope/**version number**/setup.sh
(Some versions of OS-X require that you copy the contents of the setup.sh file into your .bashrc file)

Be sure to logout and log back in!

Do some simple tests:

% which picpython This should return: /opt/passcal/other/bin/picpython

% lopt This should display a simple digital clock.

If you have any problems contact IRIS PASSCAL passcal@passcal.nmt.edu

c. Passcal software is fully compiled and contains all required modules and proper versions of python to work. Installing modules or other versions independently may interfere with the compiled software.
d. File a Bug Report / search through the Bug Reports

Visit the Bug Reports and Support Requests page to search through recent PASSODT updates or file a new bug report if you are having problems with software.

Other helpful tools

PASSCAL Tools

- ***ckMseed*** *– with the –h option provides its use, it helps to "map" the mseed traces on a given directory providing information on the headers, endianness start and end times. This tool is very useful when trying to visualize the headers of your traces and possible issues on them and to adjust dataless accordingly.*

Usage : ckMseed -h

ckMseed [-d DataDirs] [-s] [-v]
-d DataDirs - colon separated list of data directories [default: pwd]
-h Usage
-s Simple mode. Check and report endianess of first fixed header only
-v Check and report endianess of first fixed header and determine start times for first and last block of mseed file
-V Read all header blockettes
NOTE: -s, -v, & -V are mutually exclusive.-V supercedes -v supercedes -s