



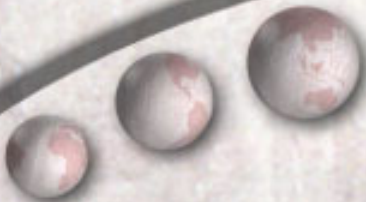
Using Antelope for Processing PASSCAL Data

From Field to DMS


Bruce Beaudoin

Glen Gettemy, Eliana Gutierrez, Mary Templeton

PASSCAL Instrument Center (PIC)




Antelope at the PIC

- PIC migration to Antelope
 - Need for real-time support (i.e. new instrumentation)
 - Simplified user support
 - Users utilizing Antelope for analysis and archiving with DMS
 - PIC is using Antelope for real-time pier and bench testing, vault tests, and USArray.
 - Current PASSCAL experiments are using Antelope for data archiving.
 - pdbtools is currently supported, but no further development.
- 



Facilities

- IRIS license agreement with BRTT
 - Licenses provided to full member institutions
 - Can be used for IRIS PASSCAL/USArray related projects
 - Cannot be used for operations of permanent local, regional and national seismic networks.
- 



Facilities at PIC

- Resources

- Archiving at PIC
- Field CPUs with Antelope installed

- Support


- Antelope training
- email and phone support

- Development

- Software suite to aid in offload, QC, archiving, and manipulation of data




Overview of Steps

- Prepare and organize for field service
 - Offload data
 - Convert to mseed into pre-determined directory structure
 - Time QC data
 - Correct mseed headers
 - Build station-channel-day volumes
- 



Overview of Steps

- Build Antelope database
 - Populate wfdisc
 - Generate dataless seed
 - pack4passcal
 - send2passcal
- 



Prepare & Organize for Station Service

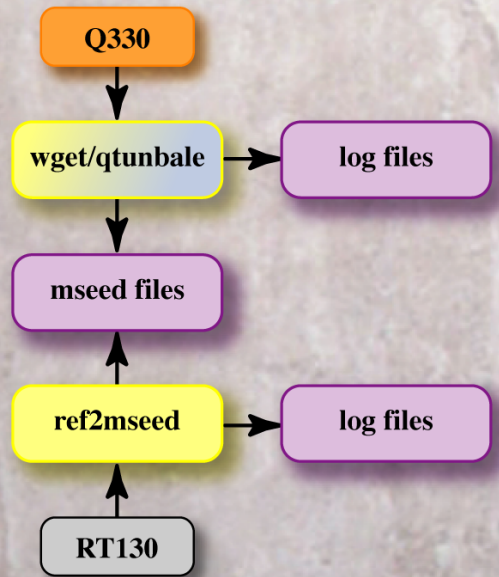
Q330

Field deployment of DAS
Comprehensive field notes (e.g. ISIS)
Outline of how data will be archived
Directory and file structure on processing CPU

RT130

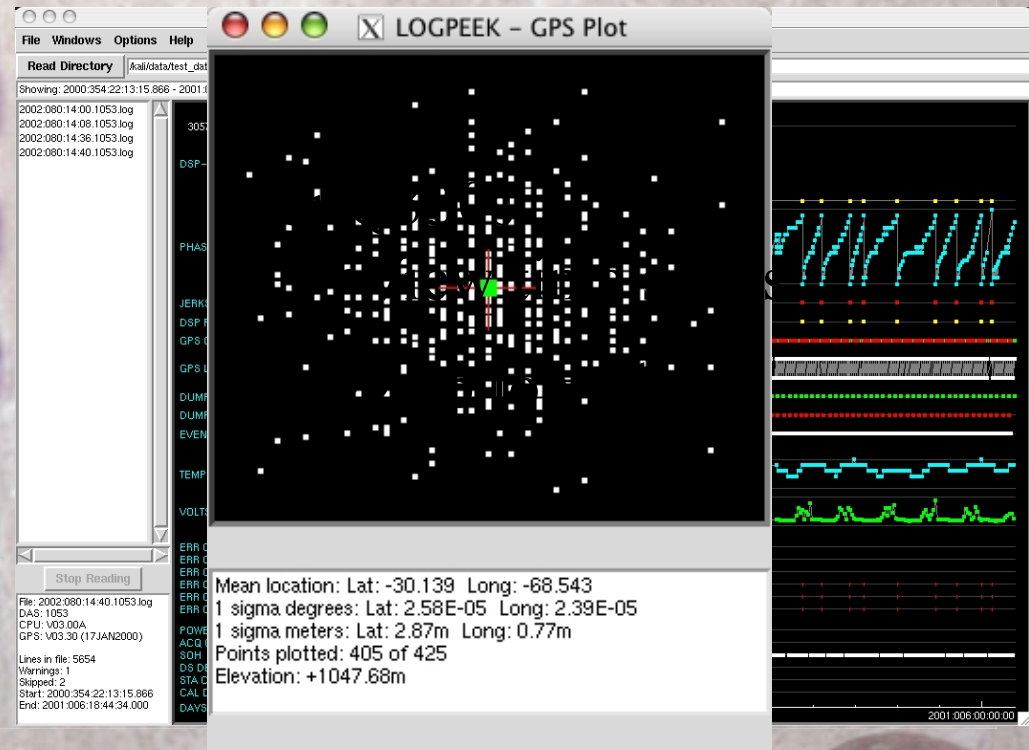


Offload Data and Convert to mseed

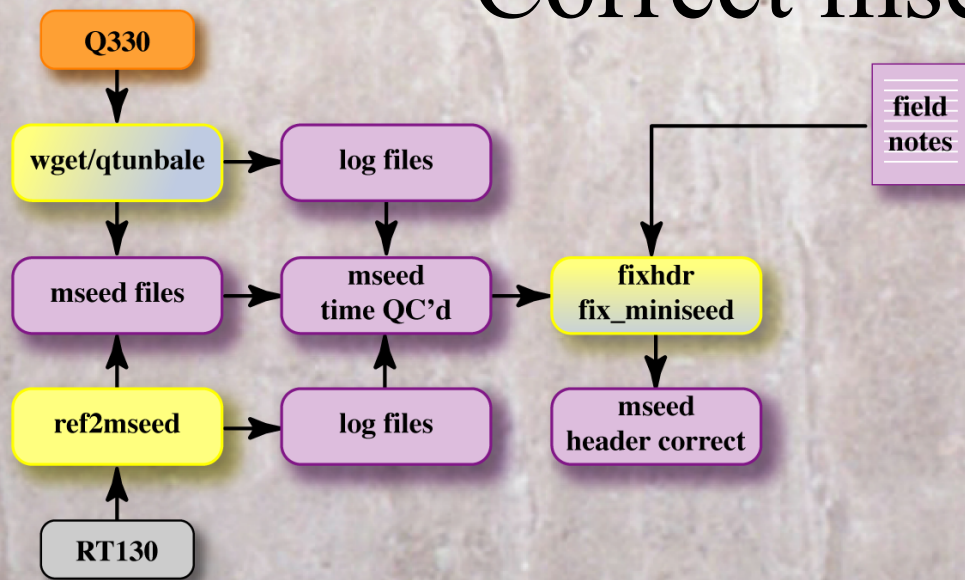


SYNOPSIS

```
qtunbale
  [-d db]
  [-f max-frag]
  [-i info-dir]
  [-o orb]
  [-S subdir]
  [-c chan]
  [-w www]
  [-f file]
  [-aqr] url [time [endtime|period]]
```

Correct mseed Headers



Correct mseed Headers

fix_miniseed

fix_miniseed -p ./fix_miniseed.pf trace_data/R*/*

```
net_sta_chan_loc &Tbl{
XX_09141_1C1_PI_B4_BHZ_01
XX_09141_1C2_PI_B4_BHN_01
XX_09141_1C3_PI_B4_BHE_01
}
net &Tbl{
}
sta &Tbl{
}
chan &Tbl{
}
loc &Tbl{
}
pf_revision_time 959728967
```



Correct mseed Headers

fixhdr & mseedpeek

fixhdr 2003.339

Trace Headers Global Modify Log Help MSEED format

Current Data Directories: /Users/bruce/data/testmseed

	For Headers Matching:		Substitute Values:
Station Name:	*	▼	
Channel:	1C4	▼	BHZ
Location Code:	*	▼	01
Net Code:	XX	▼	XP
Sample Rate:	40	▼	

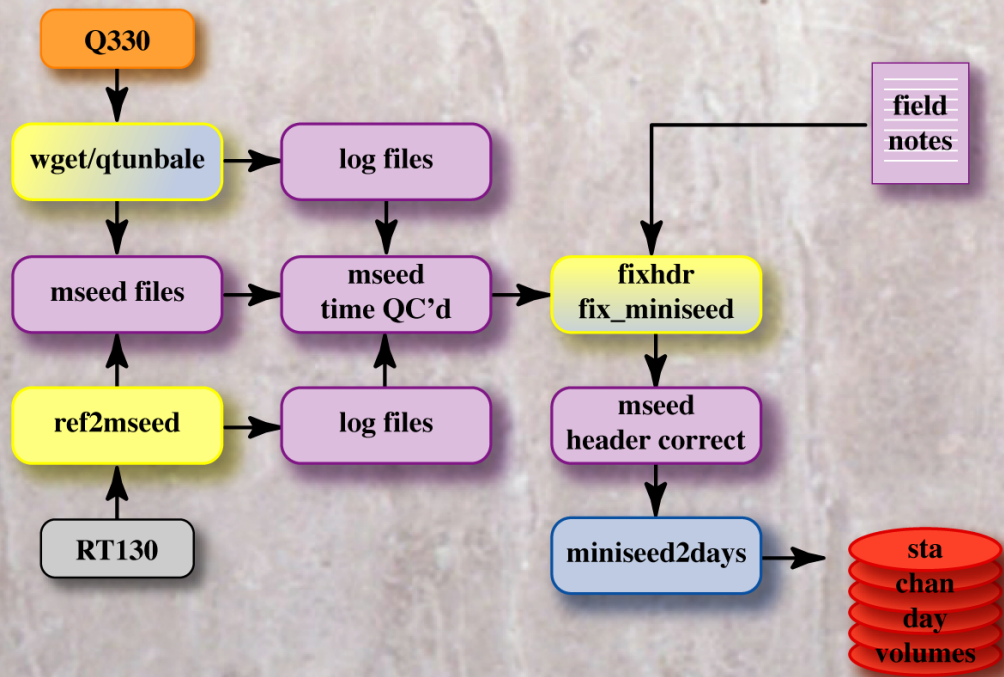
Global Set Clear All

Load Template Save Template Exit

Done. 864 mseed files found.

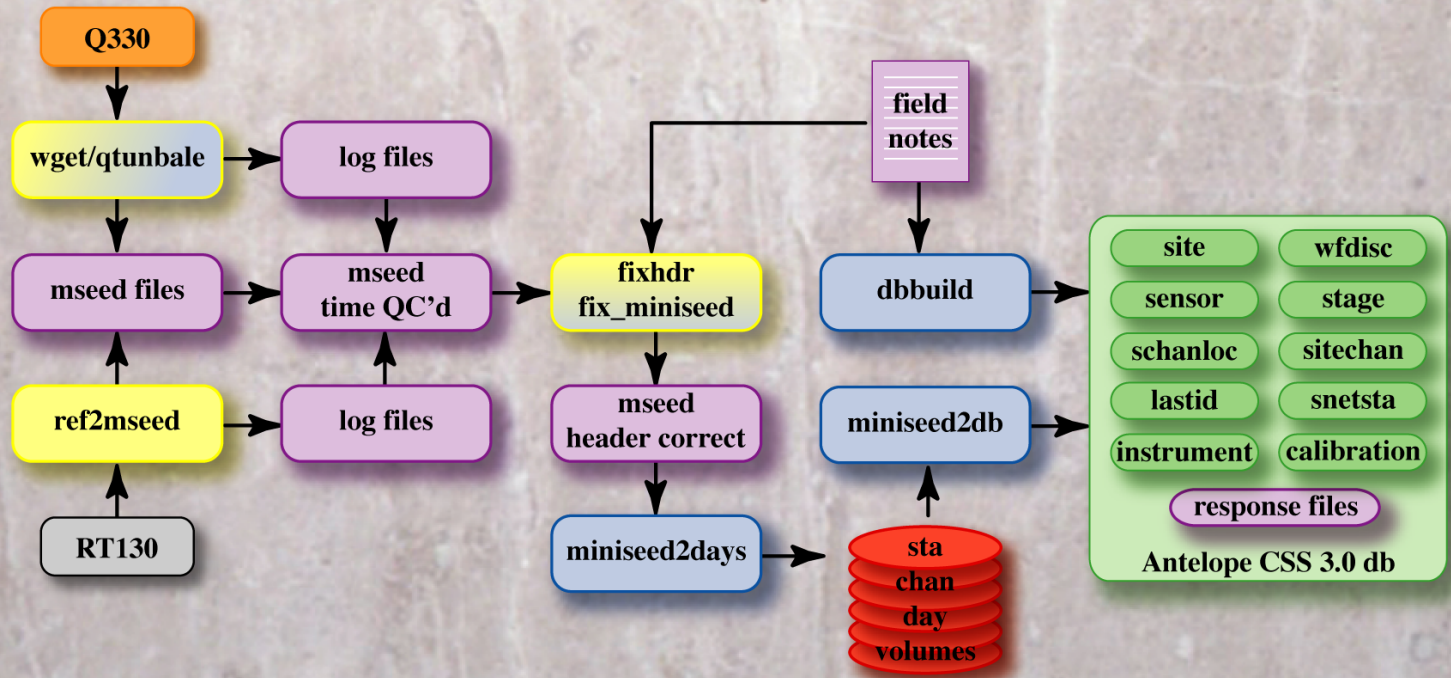
Exit

Build sta-chan-day volumes



`miniseed2days -w "data_files/%{sta}/%{sta}.%{net}.%{loc}.%{chan}.%Y.%j" \`
`trace_data/*/DT*`

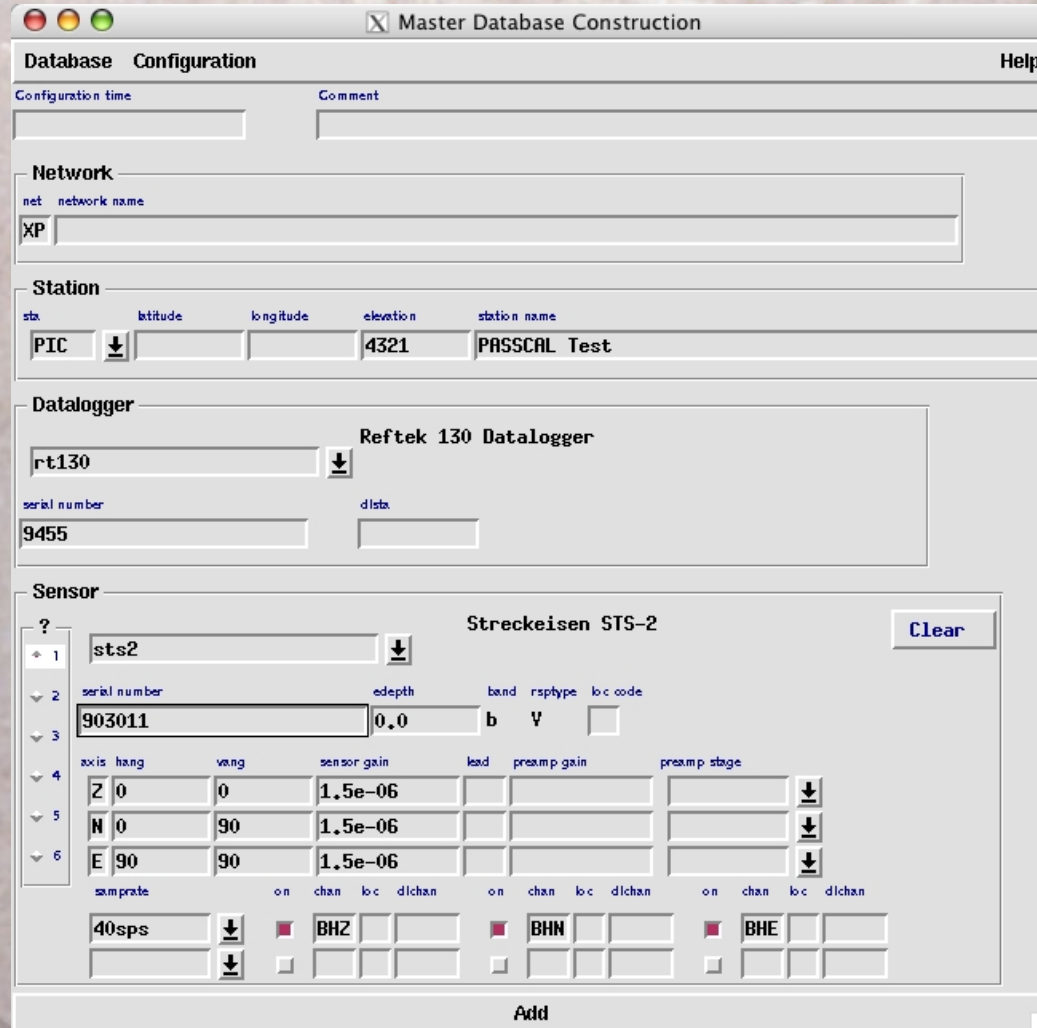
Populate Antelope database



miniseed2db data_files/*/* test_db

Populate Antelope database

dbbuild (GUI or batch mode)

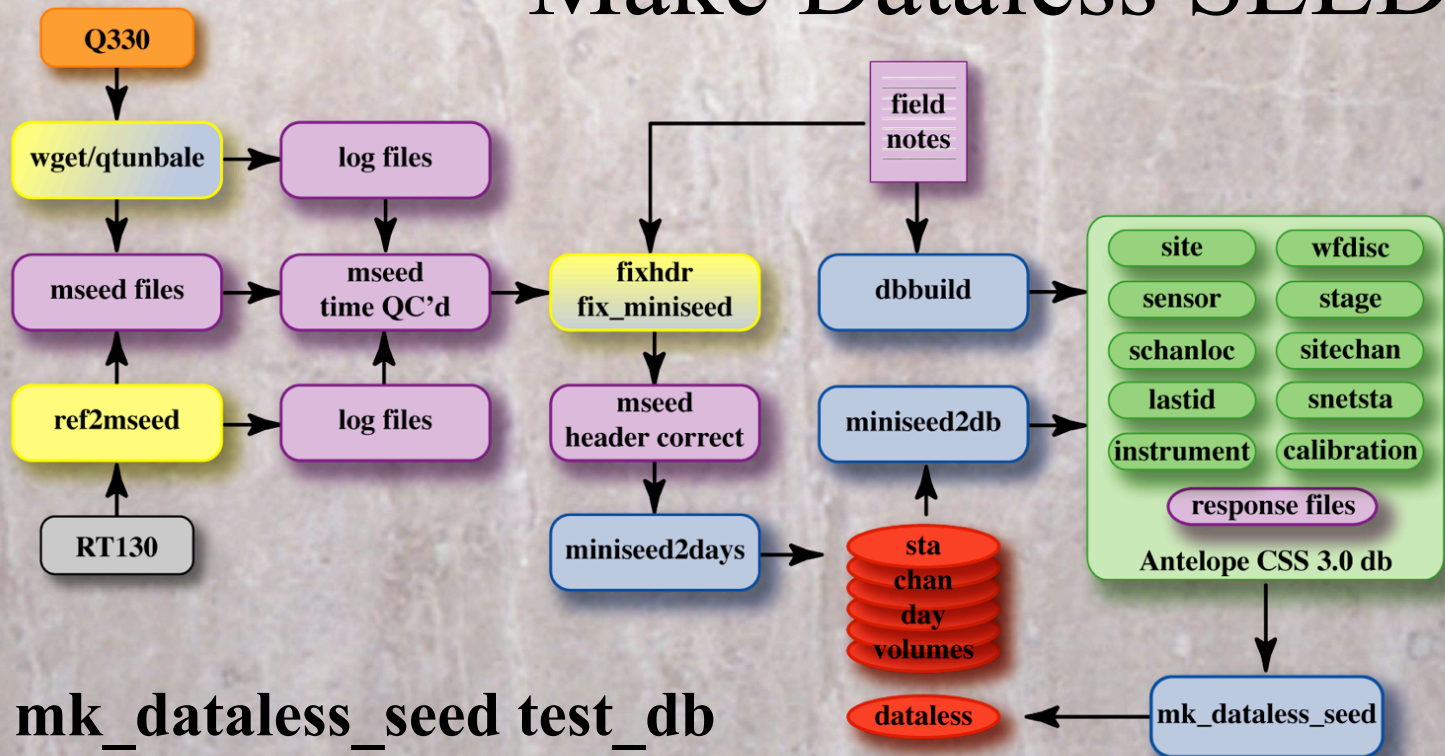


The screenshot shows a window titled "Master Database Construction" with a "Database Configuration" tab. The window contains several sections for configuring a database entry:

- Configuration time**: A text field for the configuration time and a "Comment" field.
- Network**: A section with a "net" field containing "XP" and a "network name" field.
- Station**: A section with a "sta" dropdown set to "PIC", a "latitude" dropdown with a down arrow, a "longitude" dropdown with a down arrow, an "elevation" field set to "4321", and a "station name" field set to "PASSCAL Test".
- Datalogger**: A section with a "datalogger" dropdown set to "rt130", a "Reftek 130 Datalogger" label, a "serial number" field set to "9455", and a "dista" field.
- Sensor**: A section with a "sensor" dropdown set to "sts2", a "Streckeisen STS-2" label, a "Clear" button, and a list of sensor parameters. The list includes "serial number" (903011), "edepth" (0.0), "band" (b), "rsptype" (V), "axis" (Z, N, E), "hang" (0, 0, 90), "vang" (0, 90, 90), "sensor gain" (1.5e-06, 1.5e-06, 1.5e-06), "lead", "preamp gain", "preamp stage", "sum prate" (40sps), "on" (checkboxes), "chan" (BHZ, BHN, BHE), "loc" (dropdowns), and "dichan" (dropdowns).

An "Add" button is located at the bottom right of the window.

Make Dataless SEED



Ship to PIC for QC prior to DMS submission

