

# *Antelope 5.2 and other new developments*

October, 2012

Antelope User Group Meeting

Reno



- Changes at BRTT
- Python
- **dbpick**
- **css3.1**
- **orbrtd**
- Solaris, Linux and Apple
- Future Antelope development
- New products from BRTT

# Big Changes at BRTT

- Kent Lindquist hired full time
- Kent has become BRTT's Chief Operations Officer (COO)
- Kent will be responsible for production of new releases and license management
- Kent brings his experience with python and web software into BRTT
- Kent provides BRTT with stability, new blood and increases BRTT's ability to undertake new development
- Kent will no longer be available as a private consultant

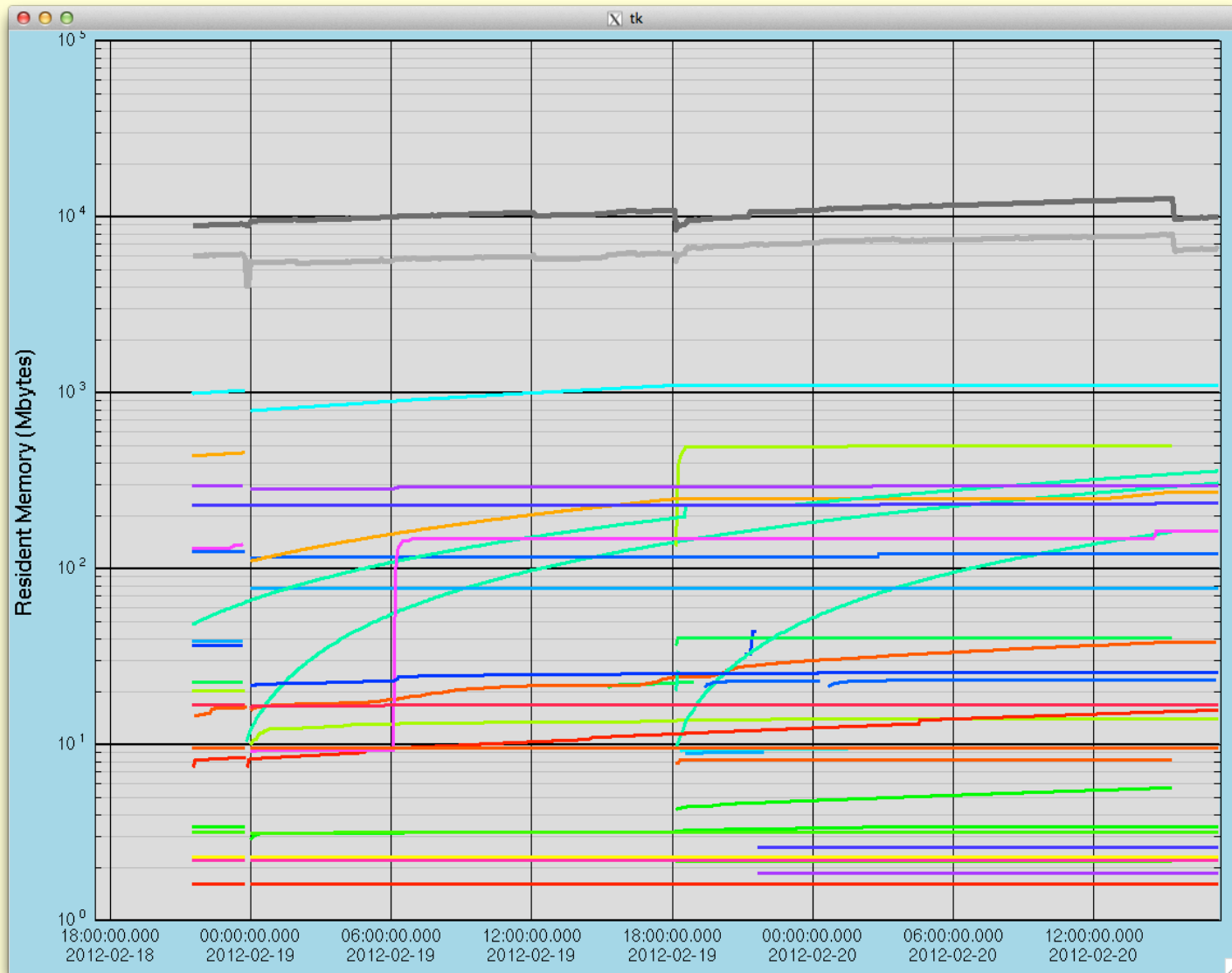
# New Python Capabilities in Antelope

- Python additions have been largely brought about by Kent
- Standard python 2.7.2 64-bit interpreter in Antelope 5.2 release
- Also included are a set of public-domain python extensions (Kent will describe in more detail)
- Also included are a set of Antelope extensions to python in the same vein as the tcl and perl Antelope extensions
  - Contributed extensions previously developed by Kent
  - vector, history, sysinfo and GUI widget extensions currently available in perl
  - orbreapth extension
- Most new GUI tools will be developed using python

# Why Bother With Python?

- Heavily used “modern” object oriented scripting language
- Used extensively in Australia and US Antelope communities
- Can find young software developers who know python (not so much the case for perl and tcl)
- Has a large and comprehensive set of public-domain extensions, including scientific/engineering extensions
- Performs similar to perl
- Unlike perl, is inherently OO
- Unlike perl, provides a simple path for tk widget extensions
- Helps to prevent BRTT fossilization

# Python-based Tool for Monitoring Memory



## New **dbpick** Capabilities

- Complete rewrite of underlying data handling middleware
- Overall data access performance increased by a factor of 10+ (with caveats)
- Highly dynamic response to changing underlying database
- New typein commands, `dbrefresh` and `dbreopen`
- New typein command, `batch`, to increase graphics performance and to control display flashing when changing events
- Can keep a **dbpick** window open continuously when running **dbevents**
- First phase toward a complete rewrite of **dbpick**

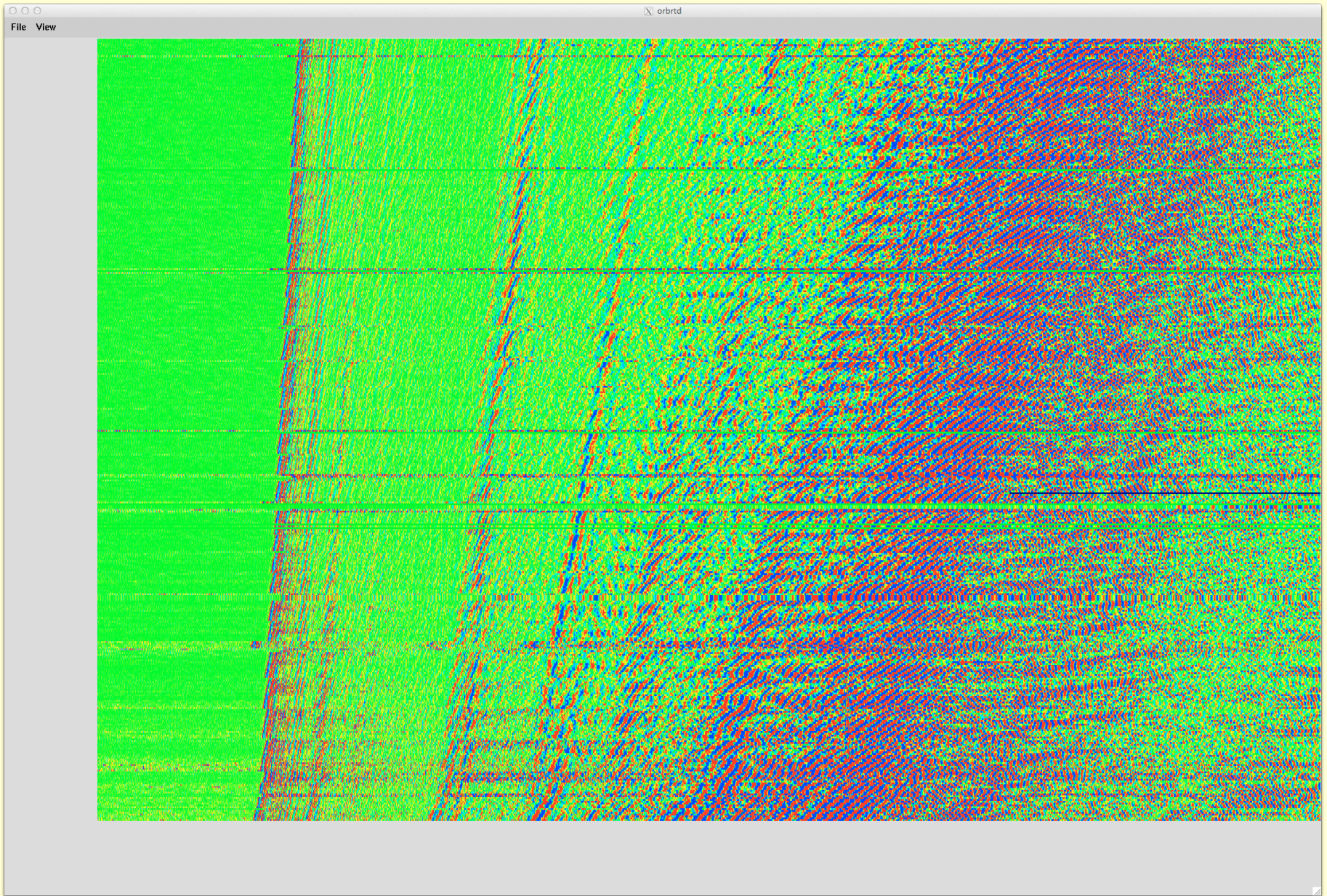
## css3.1

- New incremental changes to **css3.0** as we discussed last year
  - Mainly increased lengths of various attributes
  - All id attributes from 8 to 12 characters
  - All epoch times have microsecond precision
  - dnorth, deast in site have 5 digits precision
  - lat, lon have 7 digits precision
  - Increase dir to 80 characters and dfile to 48 characters
  - Increase sta to 8 characters and chan to 14 characters
- Increased sta attribute size means that SEED to css aliasing can be done with consistent snet\_ssta type naming convention
- Can use **dbconvert** to convert from **css3.0** to **css3.1**
- New gsn\_demo uses **css3.1**
- Addition of prefmag attribute in event table
- Still needs work – at this time not all critical programs are compatible



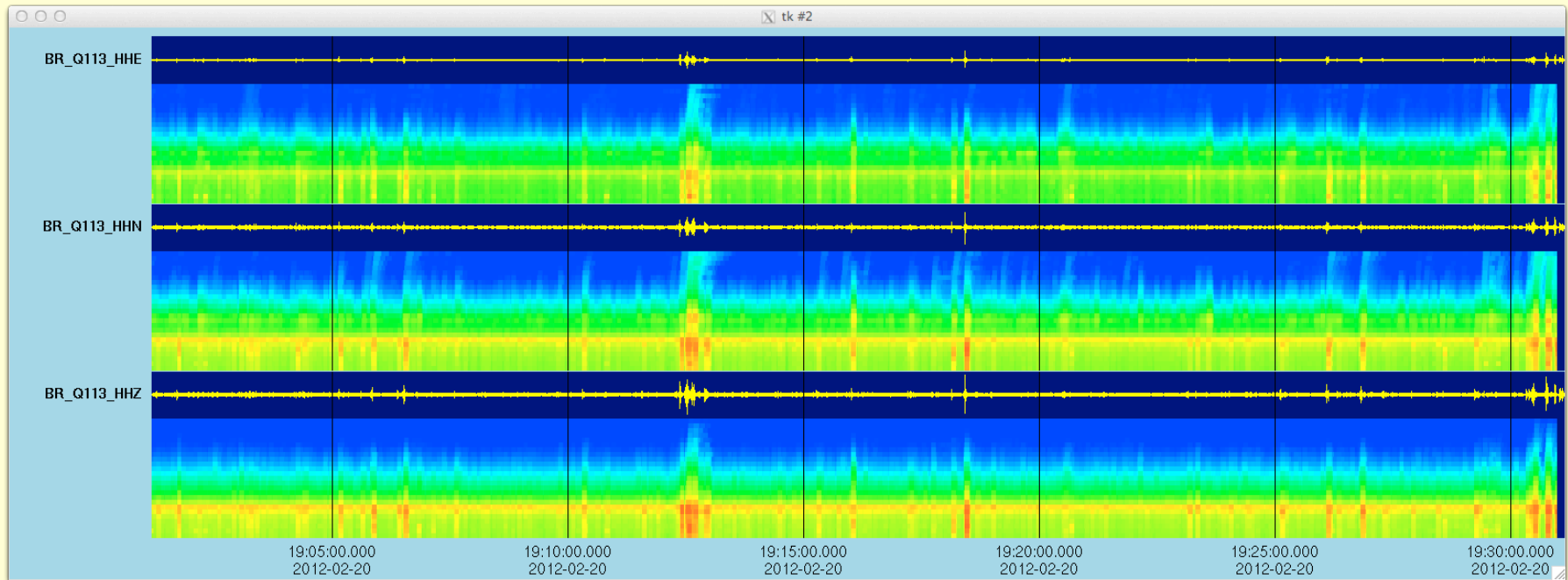
# orbbrtd

- **orbbrtd** is a complete rewrite of **orbmonrtd**
- Rewrite of old tcl/tk script as a python script
- Adaptation of buplot bptrace tk canvas item extension available in python
- Provides enhanced trace amplitude plotting options (color, log scales, etc.)
- Provides capability to plot color-contoured spectrogram style time-scrolling spectra plots
- Introduces a number of new features, including dynamic automatic channel configurations
- First stage in converting **dbpick** display graphics



**BRTT**

October 2012



# Solaris, Apple, Linux

- Still on schedule for 5.3 being last Solaris release
  - Ramp down in Solaris development
  - Solaris support through one year from 5.3 release
- Uncertainty of Apple hardware future
  - Cannot depend on Apple for enterprise-class hardware
- Starting with 5.2, BRTT will fully support Linux as a platform for enterprise-class systems
  - Canvas of large-scale users who need enterprise-class systems (Kinometrics, ANF, IRIS/DMC, Australia TEWS, Canada)
  - BRTT will fully support RHEL and CentOS 6.2 starting with 5.2 release

# Future Antelope Development

- **orbbrtd**
  - Add display of arrivals and detections
  - Enhanced autoscaling
- **dbpick**
  - Next phase is to migrate the GUI to our new tk-based graphics extensions
  - Develop new **dbpick** main program as a python script
- **dbloc2**
  - Kent will head a complete rewrite
  - Currently soliciting comments/suggestions for new **dbloc2**
  - Probably a python script with embedded **dbpick** functionality

# Future Antelope Development

- Continued development of Linux enterprise-class systems support
  - In conjunction with Kinometrics and ANF, BRTT will purchase, test and maintain an enterprise-class Linux Antelope system
  - We will focus on a single Linux release version and provide full support for Antelope systems using this release
  - We will continue to offer full support for Apple-based systems

# Future Antelope Development

- **Licensing**

- Current Antelope licensing mechanisms are antiquated, difficult to administer (on both ends) and prone to abuse
- We are in the process of overhauling Antelope licensing mechanisms (a lot of this will be invisible to our users)
- We are already dropping routine subnet-based licensing (prone to abuse). We will maintain subnet licensing mechanisms within Antelope in the short term, but we will only grant subnet licenses at our discretion
- We will continue to provide node-locked licenses for the foreseeable future
- We are exploring some kind of internet-based license manager daemon as a replacement for subnet licenses. We think this would provide the most convenient and flexible licensing system for our users
- We ask for your patience as we transition into a new licensing system

# New Products from BRTT!



## ***Peregrine***

Web enhanced version of Antelope

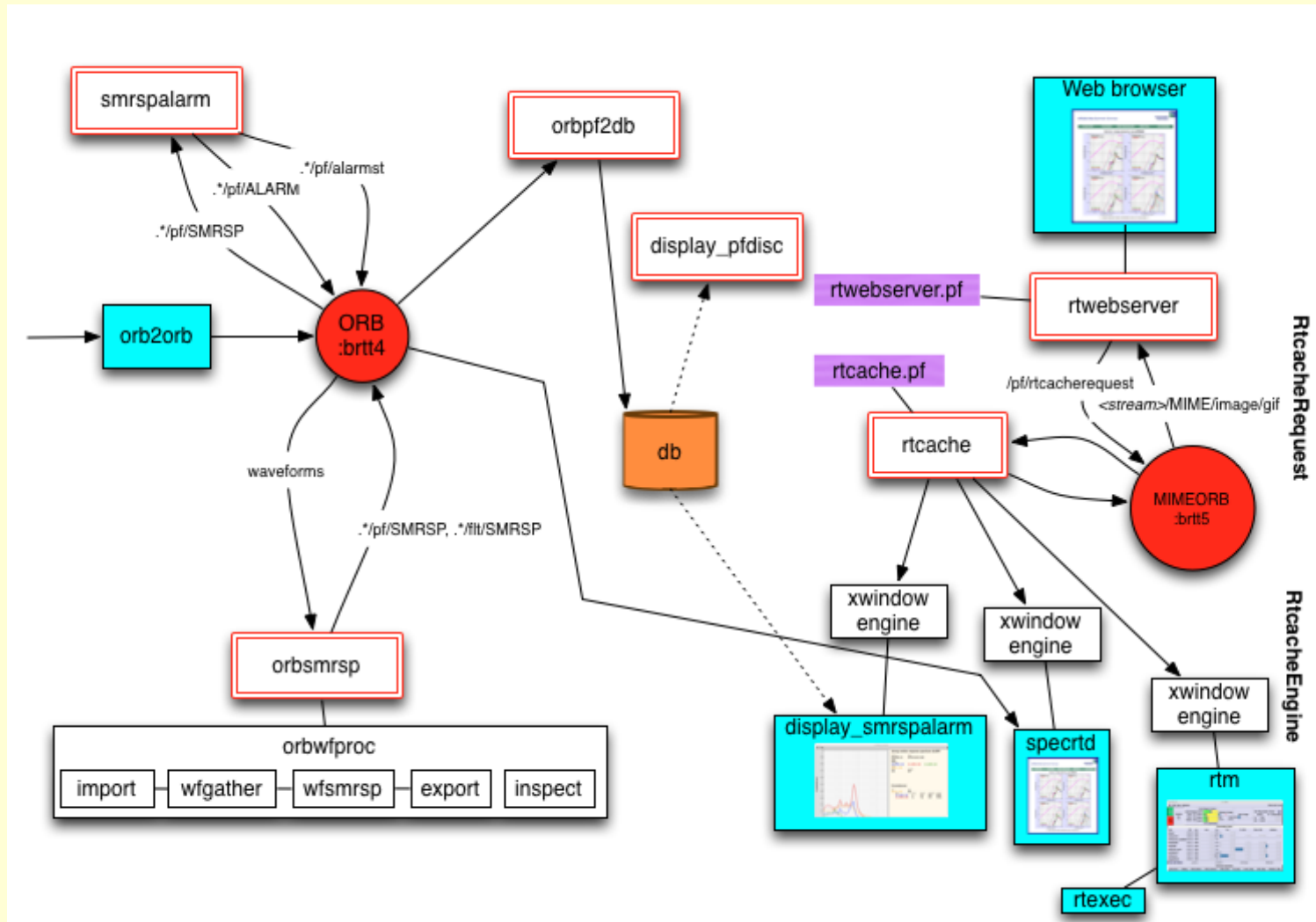
## ***Bighorn***

Strong motion/structure monitoring version of Antelope also including web enhancements

# ***Peregrine***

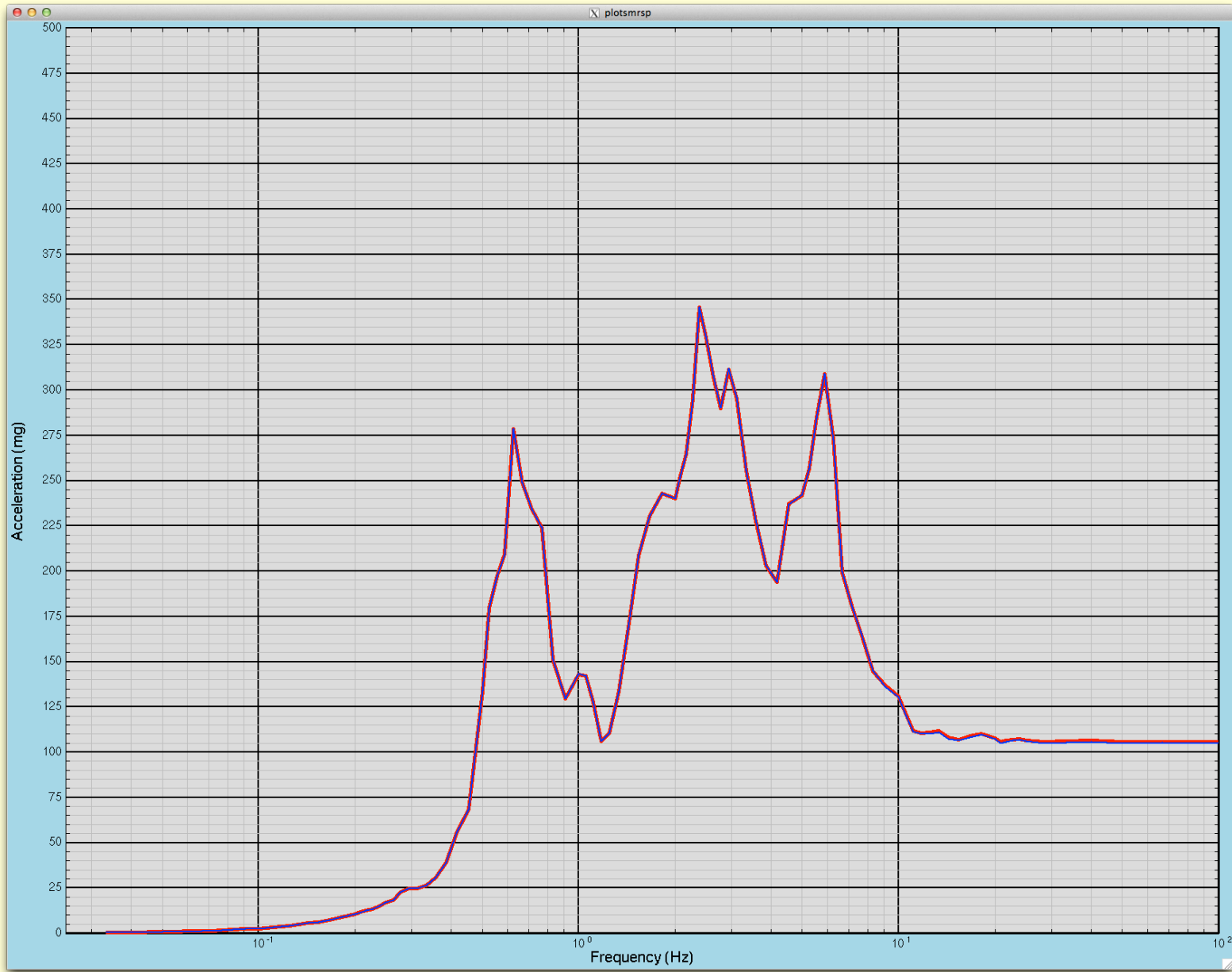
- Python-based web server
- Along with the various python extensions, provides a comprehensive toolkit for developing custom web servers that are highly integrated into the Antelope environment (configuration, connectivity, etc.)
- Along with other components, will be sold as a separate BRTT product or as an addon to existing Antelope site licenses
- A demo version of the complete ***Peregrine*** product will be made available on request

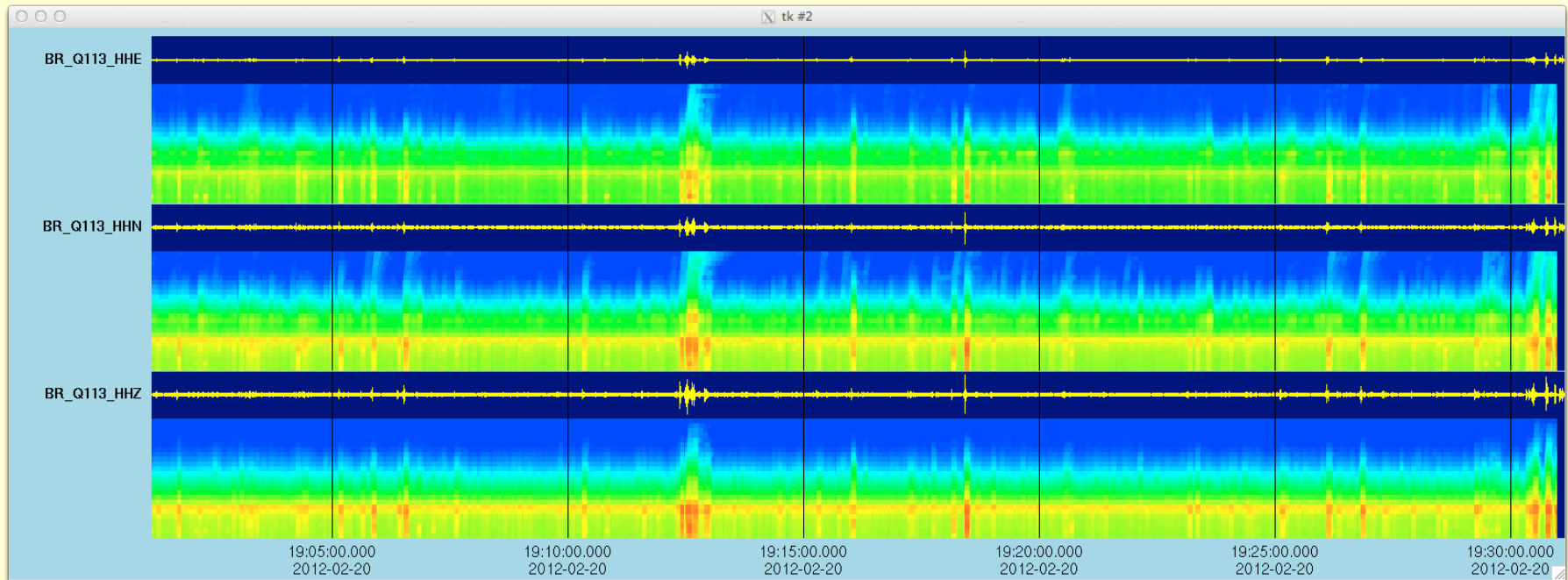
# Bighorn



## ***Bighorn - orbsmrsp***

- New ability developed for producing continuous time-dependent strong motion response spectra
- Expanded floating point data representations within ORB packets and Datascope waveform files
- Pf ORB packets to represent time continuous strong motion response spectra
- Provides a very fast method for computing continuous time-dependent response spectra for large numbers of channels







OVERALL FACILITY MAP SPECTRA FACILITY SOH

SMDemo0 FACILITY STATUS: NORMAL

OUTPUT FROM SPECTRD FOR FACILITY: SMDemo0 FACILITY

