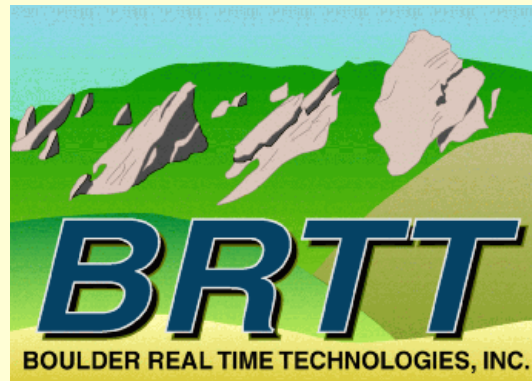




What's New in Antelope



Dr. Kent Lindquist
January, 2015
San Diego, CA AUG

Overview

- Administrative
 - Recap announcements
 - *Linux* and *Apple*—no more *Solaris*
 - *support@brtt.com*
 - Operational changes at BRTT
 - ISO Download for Customers
 - Tokenized Licenses
- Antelope 5.4 and Peregrine



Administrative



Recap: Solaris, Apple, Linux

- Antelope 5.3 was the last release on Solaris.
 - *Solaris support is over.*
- Uncertainty of Apple hardware future
 - We still fully support Apple
 - Cannot depend on Apple for enterprise-class hardware
 - Antelope 5.4 Needs OSX Mountain Lion (10.8.5) or above
- BRTT fully supports Linux as a platform for enterprise-class systems
 - BRTT fully supports RHEL and CentOS 6.2 in the Antelope 5.4 release



Operational Changes at BRTT: Support

- Improved support responses via email and web
<https://brtt.zendesk.com>
- Always get an automated reply with a ticket number
- Provides BRTT staff with coordinated support response tools
- You can go to the web site to see current and old support requests
- You can access your support requests from any web browser
- Our web site (www.brtt.com) describes this in more detail
- **YOU ABSOLUTELY MUST USE**
support@brtt.com
- **WE WILL NO LONGER RESPOND TO SUPPORT REQUESTS TO OUR INDIVIDUAL ADDRESSES**



Operational Changes



Operational Changes at BRTT: Distribution

- New download site for paying customers
 - http://www.brtt.com/customer_download.html
 - Much more convenient than CD distribution
 - Downloads are logged by customer
 - Makes sure everyone has latest ISO
 - Eases notification upon problems
 - Allows us to make large updates when necessary



Operational Changes at BRTT: Further Licensing Improvements

- Customer ID assigned by BRTT
- Tokenized licenses
 - Human-readable
 - Enhanced *check_license* program
 - *check_license -v*
 - Looks for the first license line applicable to the machine
 - Also runs the new *licsnapshot* program
 - Single-line licenses. *Make sure it's on a single line.*
 - If you modify the license line, it will break
 - Still goes in *\$ANTELOPE/data/pf/license.pf*

key=*****

product=Antelope version=5.4 custid=USA/BRTT/Evaluation

lictype=node serial=**3F82ZQ****

a=netops count=0 expires=2016 Jun 01



Operational Changes at BRTT: Software Audit

- ***For Antelope 5.4:***
 - New naming convention
 - Deprecated: **_dep*
 - Preliminary: **_pre*
 - Experimental: **_exp*
- ***For Antelope 5.5:*** Conducted audit of entire code base
 - *Will implement the audit results for Antelope 5.5 this May*
 - Removing little-used programs and libraries
 - No more *libproj*
 - No more *VOGL* graphics
 - No more *dynamic_controls*
 - Moved *autodrm, dbdoc, init_training etc.* to *contrib*
 - Will remove *dbinfer, heartbeat2db, leak_detector etc.*
 - Hard to maintain unused programs – “attractive nuisance”
 - Focusing our efforts on most-used and critical components
 - Feedback welcome of course



Antelope 5.4



Antelope 5.4

- *orbbrtd*
- Python enhancements
- Antelope Toolbox for *MATLAB*
- *USGS2orb*
- Moment Tensors
- *dbevents_pre*
- Peregrine

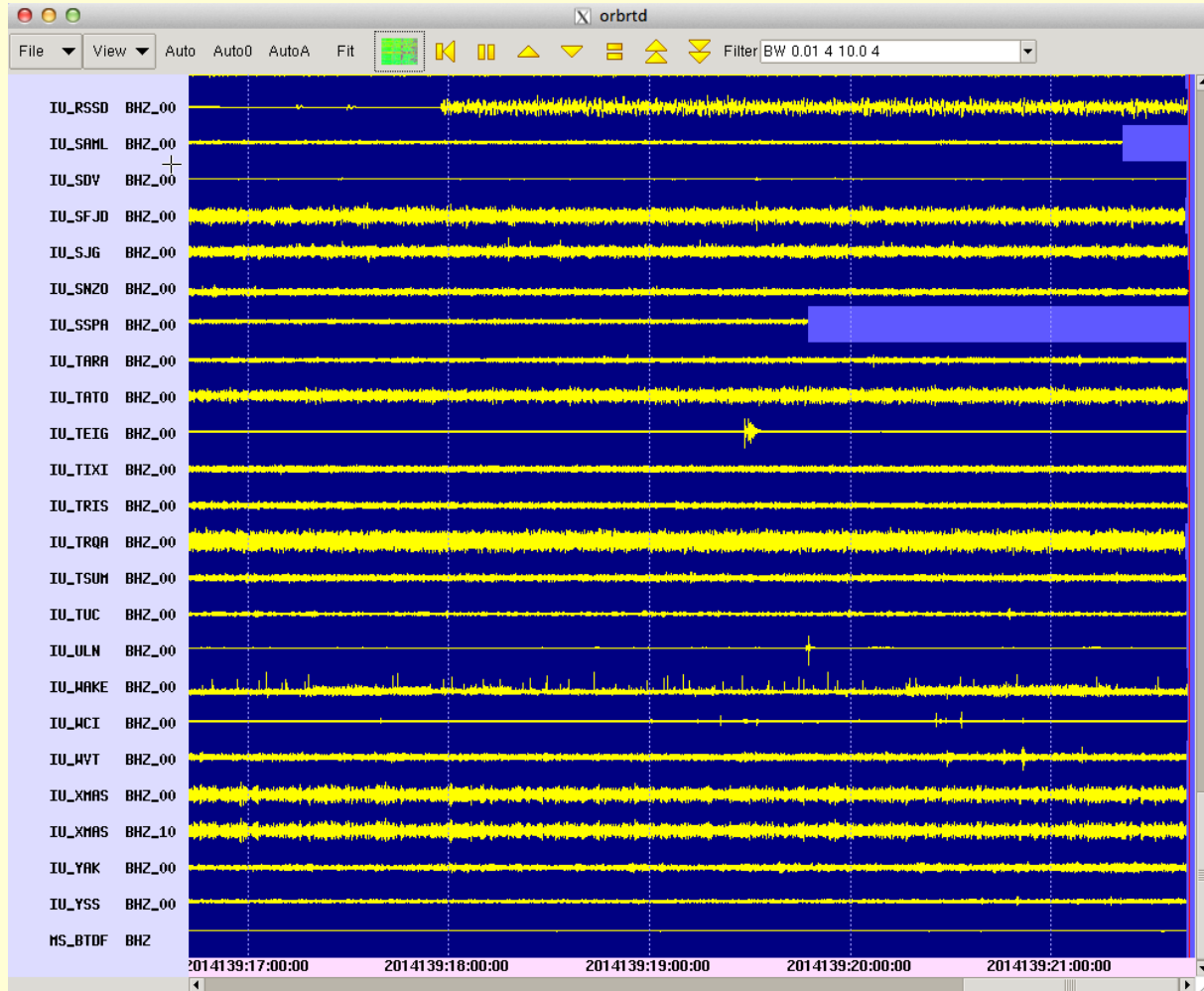


orbstd

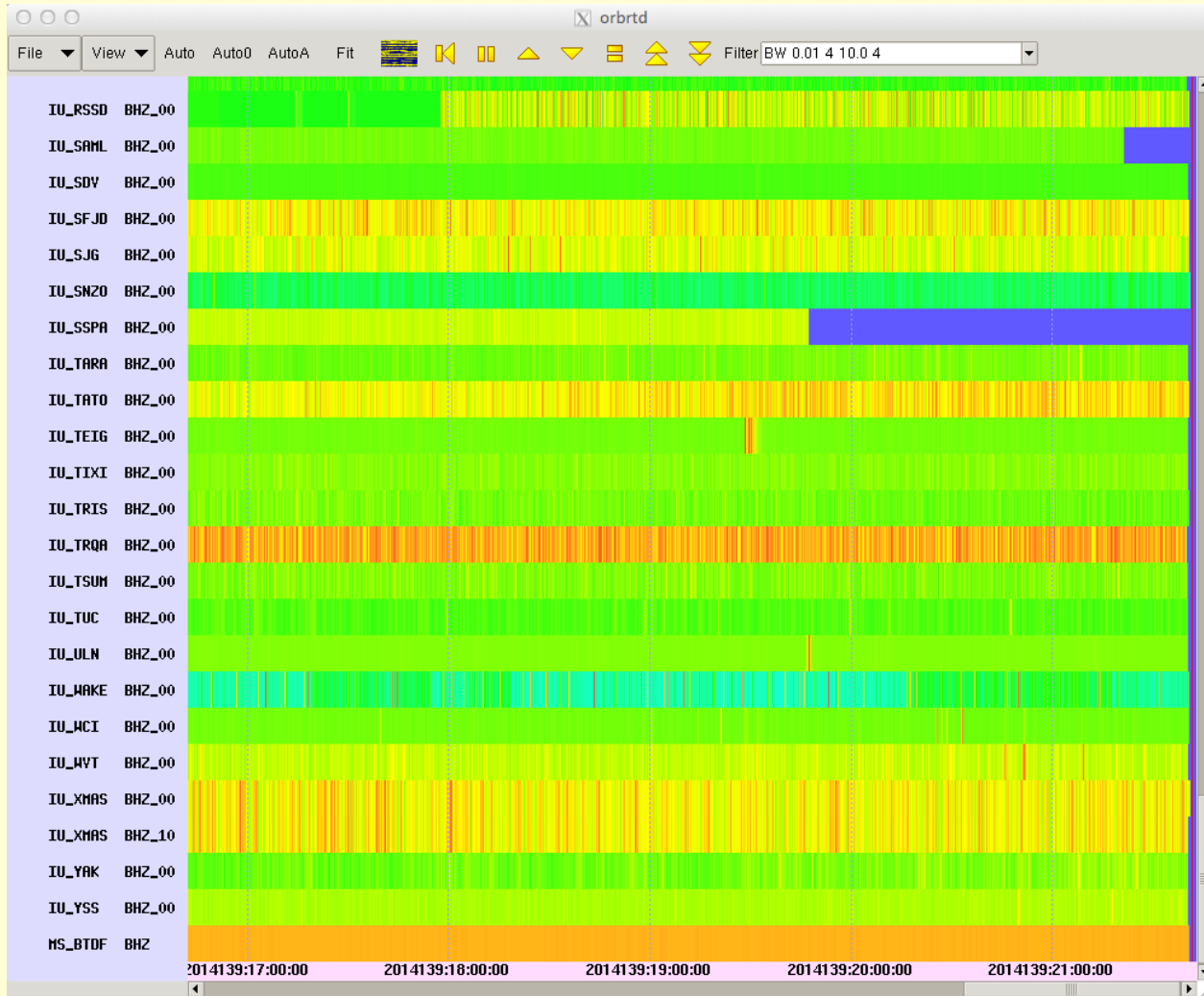
- **orbstd** is a complete rewrite of **orbmonstd**
- Rewrite of old TCL/Tk script as a Python script
- Adaptation of *buplot* *bptrace* Tk canvas item extension available in python
- Provides enhanced trace amplitude plotting options (color, log scales, etc.)
- Provides capability to plot color-contoured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



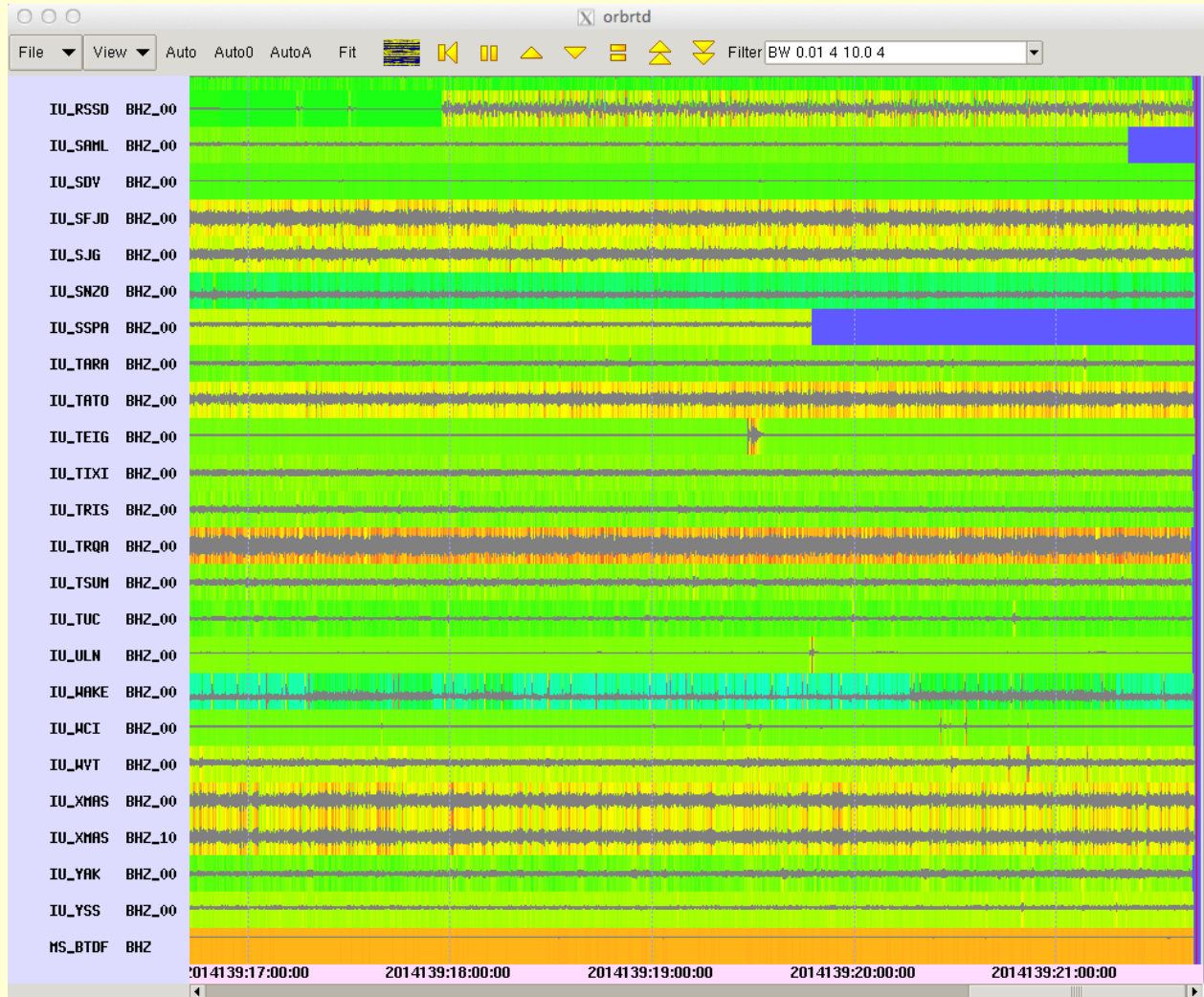
orbtd: scrolling time-series



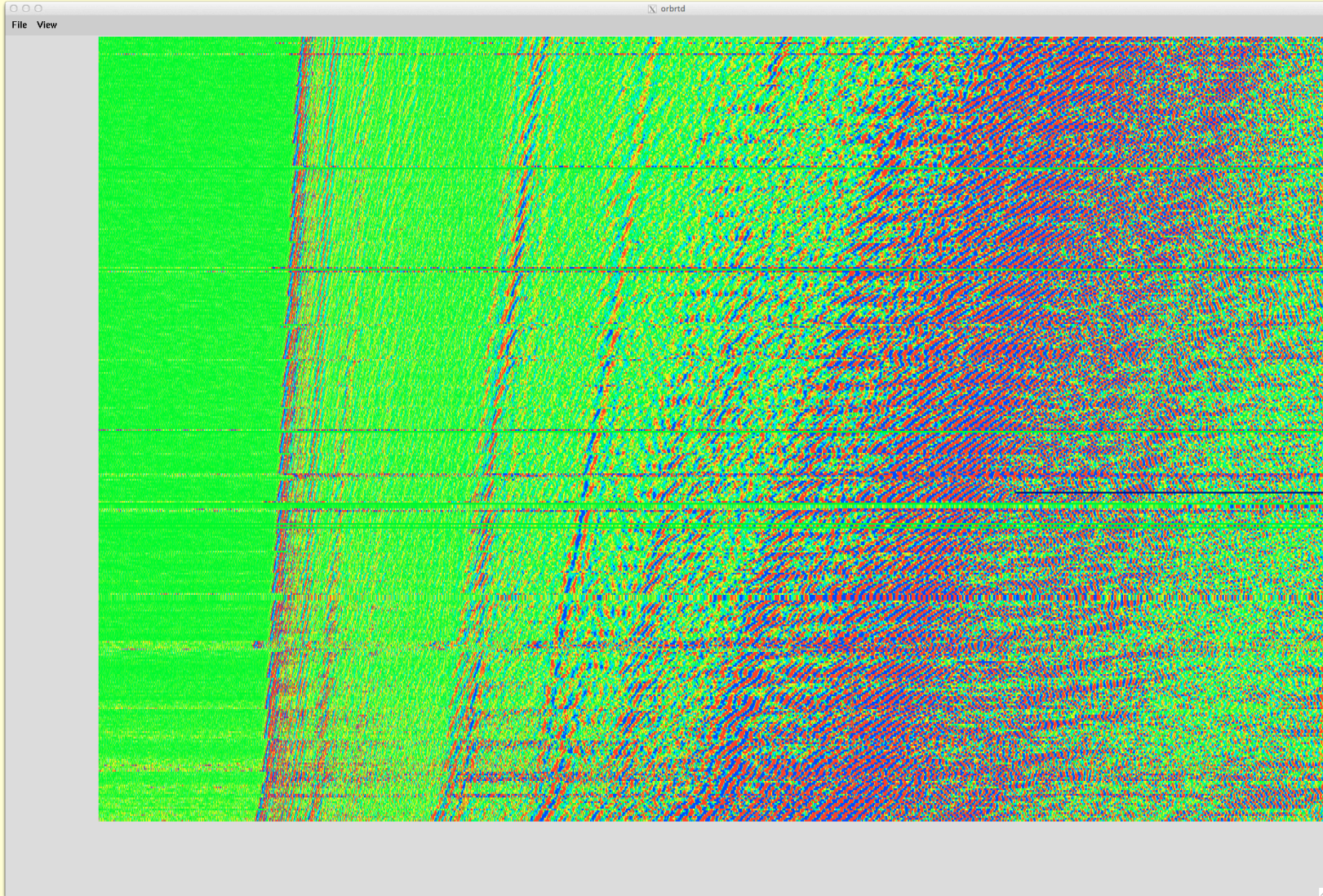
orbtd: color contours



orbtrd: combined plot



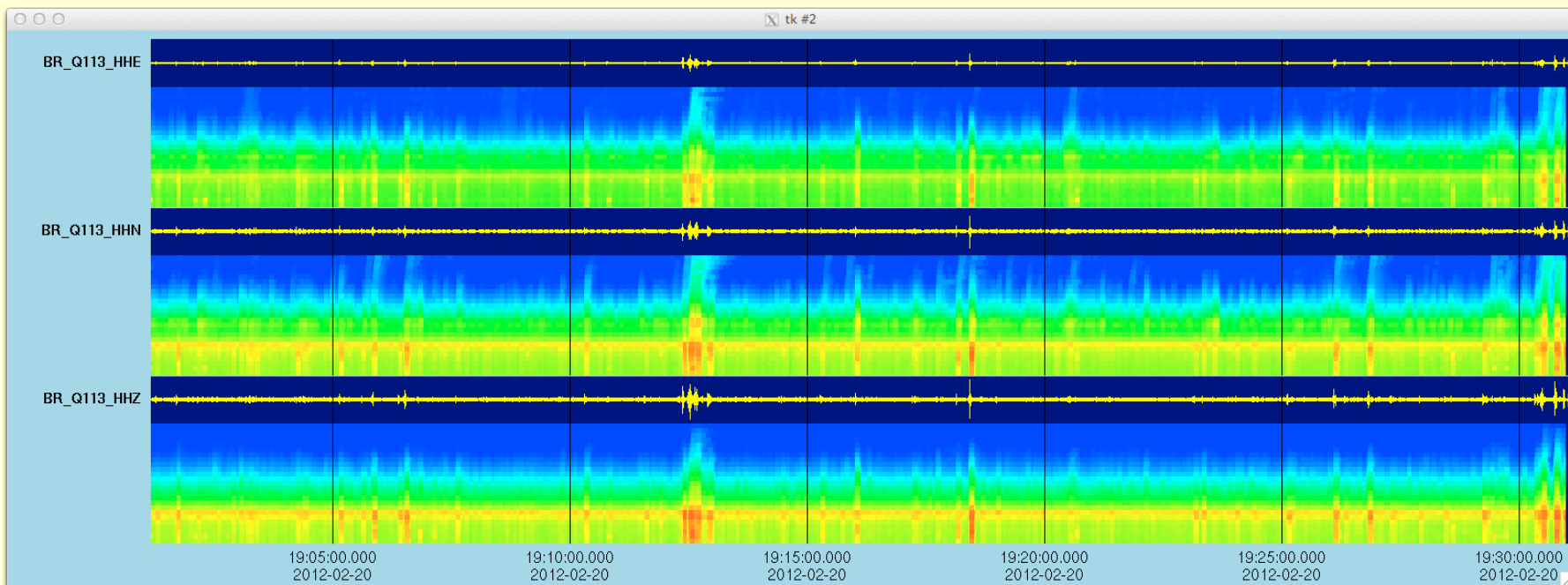
orbtrd: colorscale, USArray





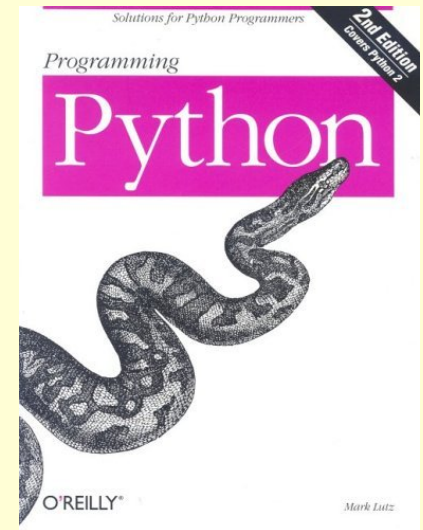
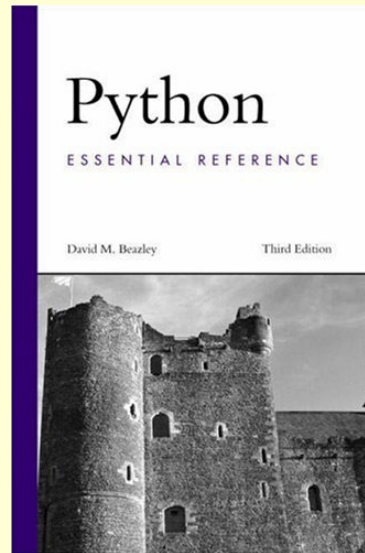
orbtrtd spectragrams

[with *Bighorn* structural monitoring package]



Python

- Python: Object-oriented scripting language
 - <http://www.python.org>
 - Dynamic
 - Powerful
 - Extensible
 - Fast



Python

- *Datascope* interface rewritten
 - Interface mostly backwards-compatible
 - Only one idiom – object based
 - Can still use in procedural code
- *Coords* interface rewritten
- Many changes to *buplot* BRTT plotting library
- New *ipa* program for interactive
Antelope Python shell (*ipython* profile)



(“*ipython Antelope*”)

Python *ipa*

```
[marble:~][dev] kent% ipa
```

```
Python 2.7.6 (default, Mar 5 2014, 15:42:38)
```

```
IPython 1.1.0 -- An enhanced Interactive Python.
```

```
...
```

```
IPython profile: antelope
```

```
In [1]: from antelope import datascope
```

```
In [2]: db = datascope.dbopen( '/opt/antelope/data/db/demo/demo' )
```

```
In [3]: db = db.lookup( table = 'origin' )
```

```
In [4]: db.query( datascope.dbRECORD_COUNT )
```

```
Out[4]: 1351
```

```
In [5]:
```

Antelope Toolbox for MATLAB

- Antelope Toolbox for MATLAB (ATM)

- Compiled into Antelope 5.4

- Still need your own copy of MATLAB

- Use *getid* to find supported versions

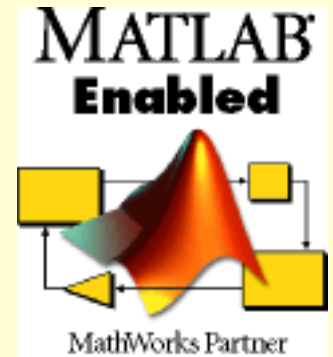
```
% getid matlab  
R2013b R2014a
```

- Turnkey:

```
>> run( '/opt/antelope/5.4/setup.m' )
```

- Starting man-page *antelope_matlab(1)*

- Part of the MATLAB Connections Program



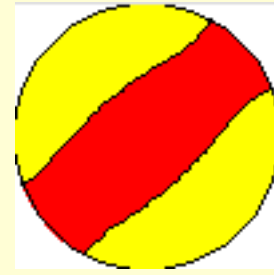
USGS2orb

- Reads Event Catalog from USGS/NEIC web-site
- Puts events in *orbserver*
- Magnitude cutoffs
 - Option to ignore all events below threshold mag
 - Option to archive all events above threshold regardless of association with locally detected events
- *Optionally imports USGS Moment Tensors*



Moment Tensor support

- New Program *USGS2orb* imports moment tensors
- New '*mt*' database table stores them
- New *buplot* capability plots beach-balls



- Integrated into *dbevents_pre* event display

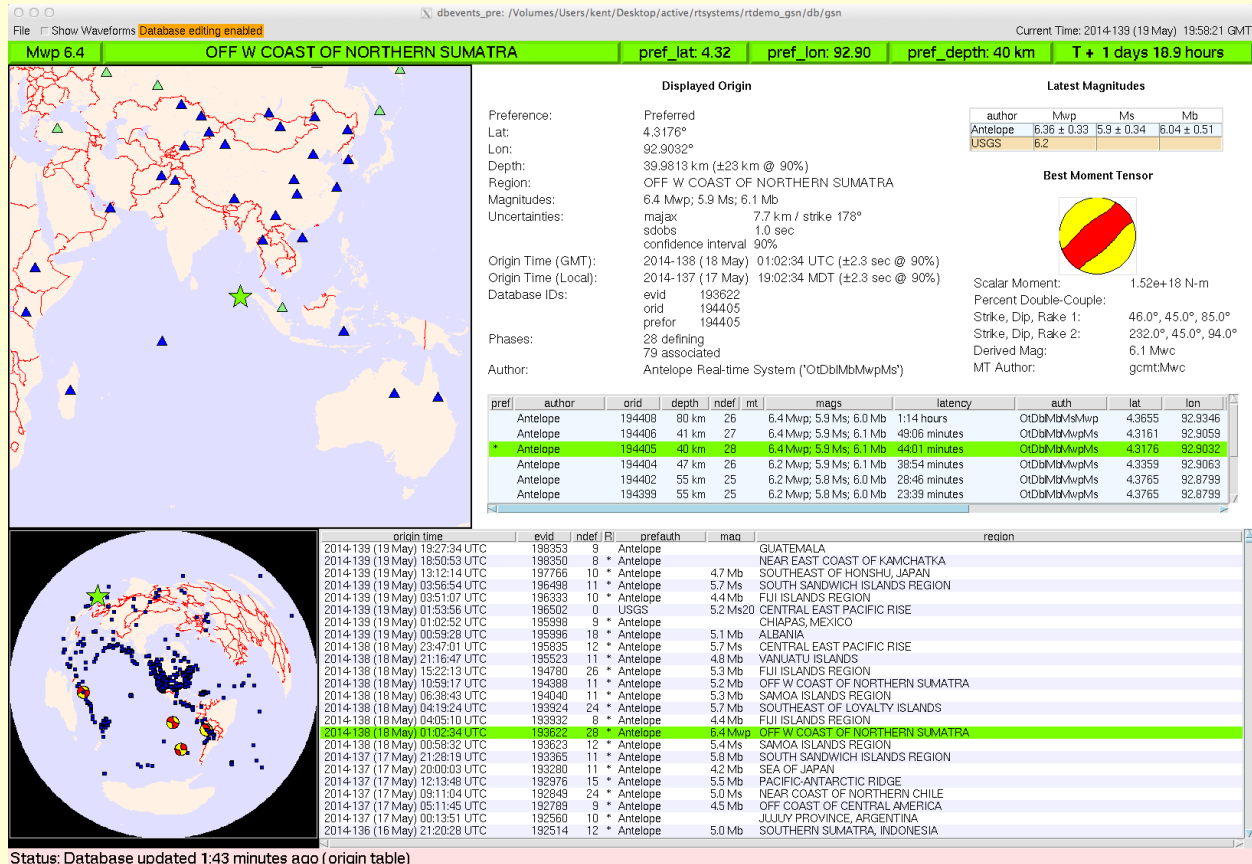


dbevents_pre

- New Event Display program
- Includes Moment Tensor Support
- Top banner for heads-up situational awareness
- Magnitudes comparison table
- Configurable
- Basis for new *dbloc2*



dbevents_pre: Event Display



dbevents_pre: Event Display

Editing Option

Information Panel

Show Waveforms

Clock

Time Since Origin

Heads-up Banner

The screenshot shows the dbevents_pre software interface. At the top, a green banner displays 'Mwp 6.4 OFF W COAST OF NORTHERN SUMATRA' along with preferred coordinates: 'pref_lat: 4.32 pref_lon: 92.90 pref_depth: 40 km T + 1 days 18.9 hours'. The interface is divided into several sections:

- Focus Map:** A map of the region showing the event location with a green star and other seismic events marked with blue triangles.
- Information Panel:** Contains event details such as 'Displayed Origin', 'Latest Magnitudes', and 'Best Moment Tensor'. It includes a moment tensor diagram and scalar moment value.
- Origins List:** A table listing various seismic events with columns for preference, author, origin ID, depth, magnitude, and time.
- Earthquakes List:** A table listing earthquakes with columns for origin time, event ID, magnitude, and region.
- Status:** A pink banner at the bottom indicates 'Status: Database updated 1:43 minutes ago (origin table)'.

Focus Map

Magnitudes Table

Moment Tensor

Origins List
For Focus Earthquake

Overview Map

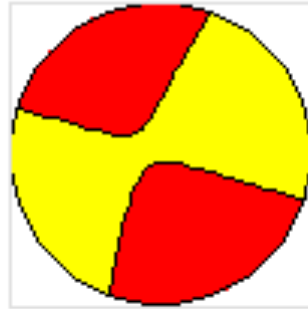
Earthquakes List

Update Status



dbevents_pre: Moment Tensor Support

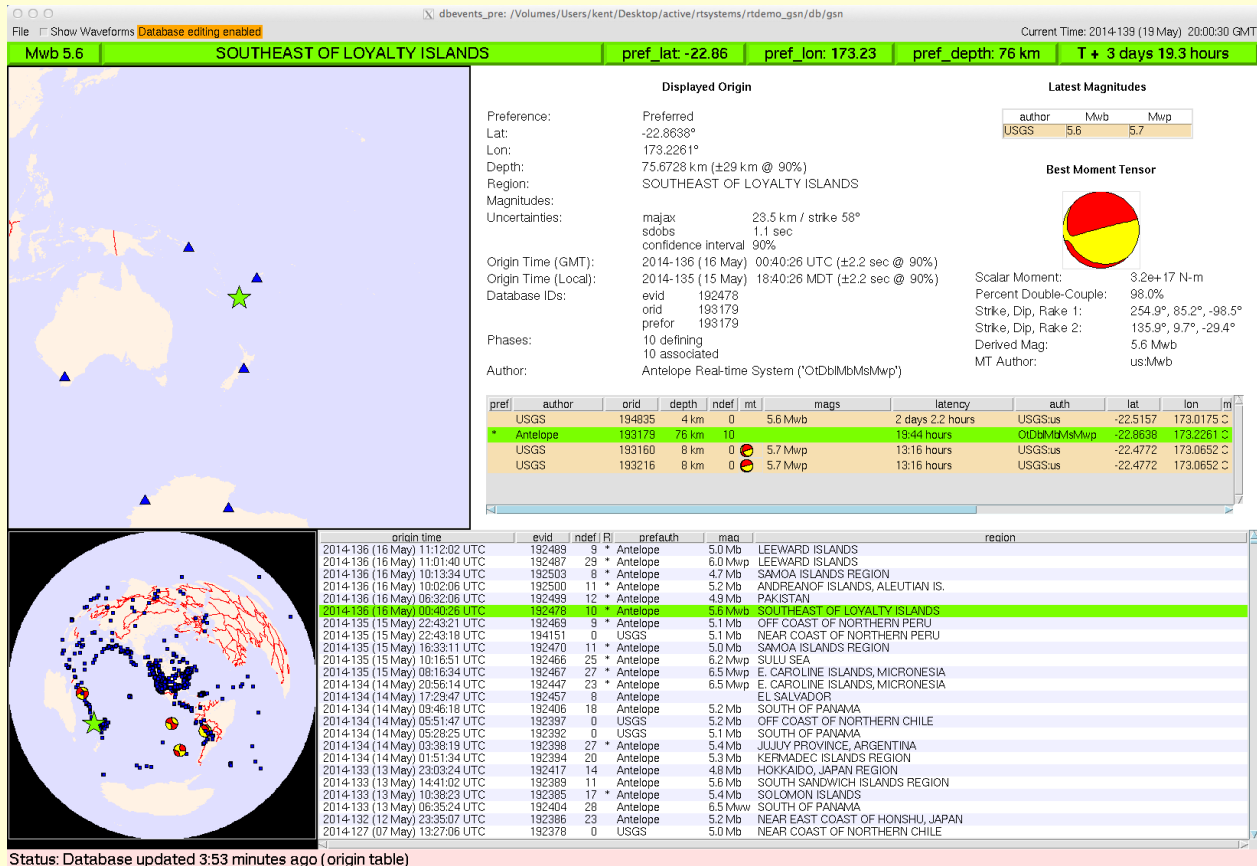
Best Moment Tensor



Scalar Moment:	1.73e+18 N-m
Percent Double-Couple:	89.0%
Strike, Dip, Rake 1:	108.8°, 89.2°, -13.3°
Strike, Dip, Rake 2:	199.0°, 76.7°, -179.2°
Derived Mag:	6.1 Mwb
MT Author:	us:Mwb

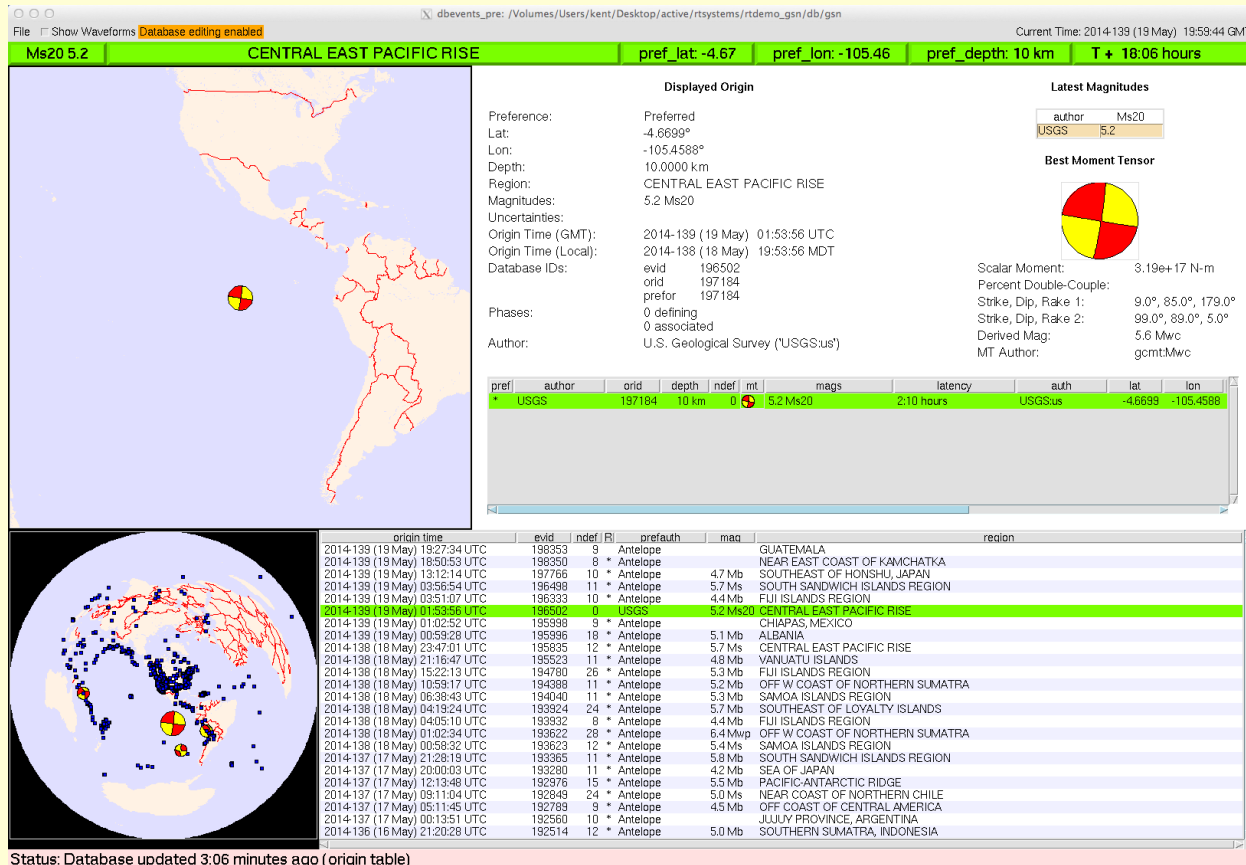


dbevents_pre: Choice of 'best' MT



dbevents_pre:

Map display of prefor MT, 'best' MT



dbevents_pre:
Magnitudes Summary Table

Latest Magnitudes

author	Mwp	Ms	Mb
Antelope	6.36 ± 0.33	5.9 ± 0.34	6.04 ± 0.51
USGS	6.2		

- Magnitude preference order is specifiable



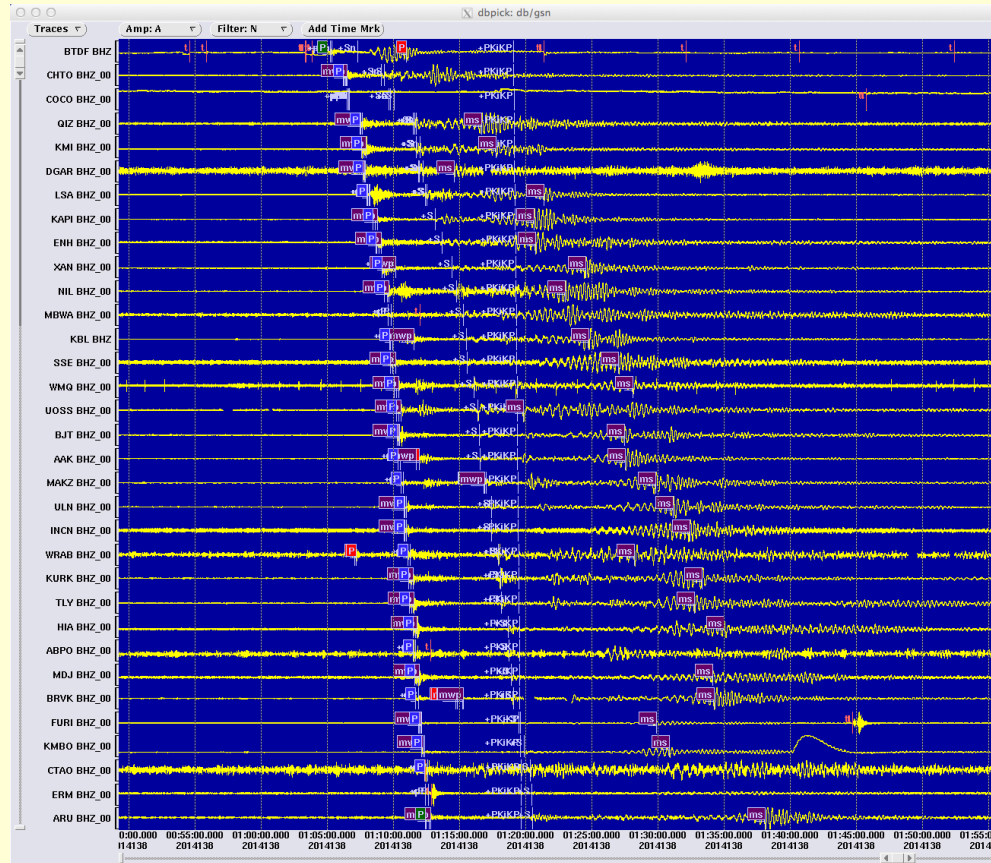
dbevents_pre: Information Panel

Displayed Origin

Preference: Preferred
Lat: 4.3176°
Lon: 92.9032°
Depth: 39.9813 km (± 23 km @ 90%)
Region: OFF W COAST OF NORTHERN SUMATRA
Magnitudes: 6.4 Mwp; 5.9 Ms; 6.1 Mb
Uncertainties: majax 7.7 km / strike 178°
 sdobs 1.0 sec
 confidence interval 90%
Origin Time (GMT): 2014-138 (18 May) 01:02:34 UTC (± 2.3 sec @ 90%)
Origin Time (Local): 2014-137 (17 May) 19:02:34 MDT (± 2.3 sec @ 90%)
Database IDs: evid 193622
 orid 194405
 prefor 194405
Phases: 28 defining
 79 associated
Author: Antelope Real-time System ('OtDbIMbMwpMs')



dbevents_pre: show waveforms option



dbevents_pre: rudimentary editing

Database editing enabled

Editing has warning-label and off-switch
for kiosk displays

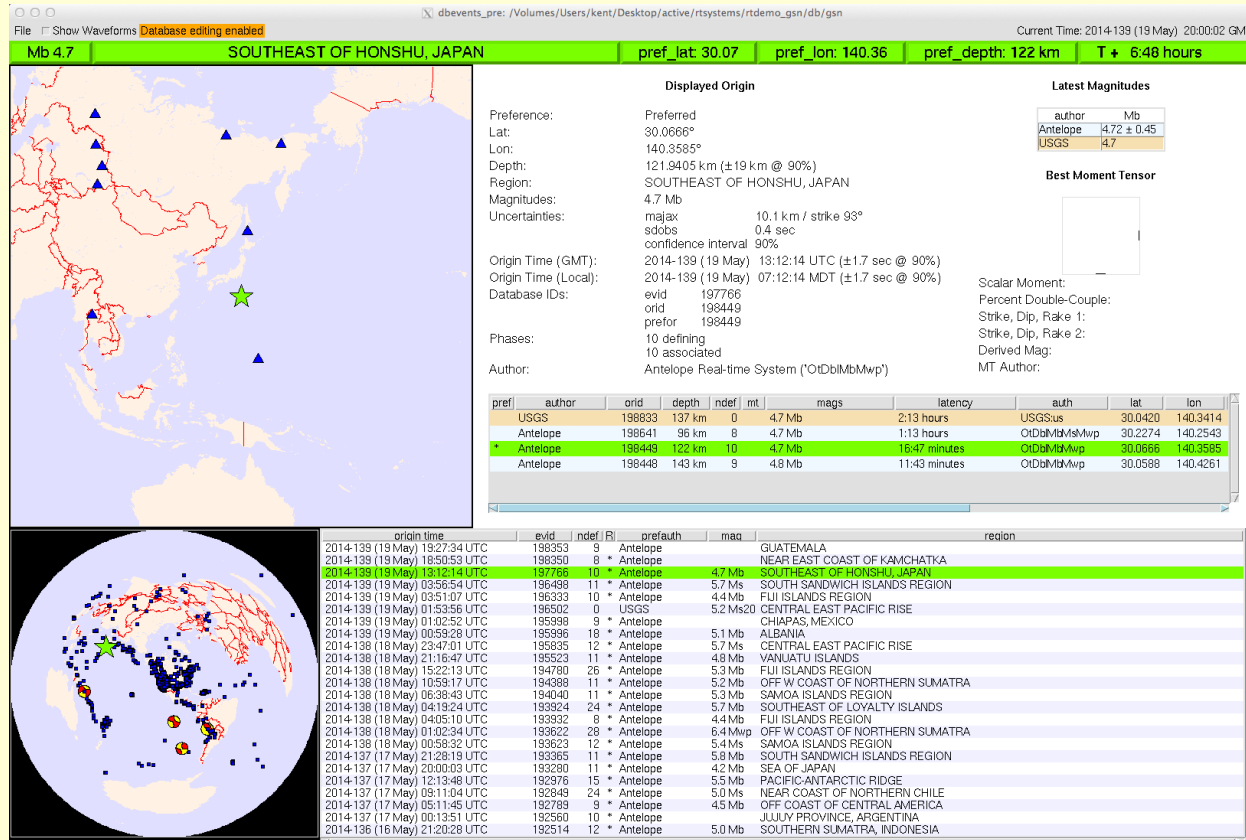
pref	author	orid	depth	ndef	mt	mags	latency	auth	lat	lon	m
*	Antelope	199037	71 km	9			29:00 minutes	OtDbl	15.4840	-90.6894	C
	Antelope	199036	69 km	9			18:48 minutes	OtDbl	15.4658	-90.7033	C
	Antelope	199035	66				8:40 minutes	OtDblMbtMwpMs	15.4557	-90.7062	C

Set orid 199036 as prefer
Delete orid 199036 origin row

- Set preferred origin
- Delete undesirable origin



dbevents_pre: Color-coded Authors



Status: Database updated 3:25 minutes ago (origin table)





Bighorn

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



Peregrine

Web enhanced version of Antelope



Peregrine

- Web-based Monitoring
- Web-based Information distribution
- Web-based Interaction
- Antelope Base System + Web Infrastructure
 - New program *rtwebserver*
 - New program *rtcachel*
 - Host of supporting *Python* libraries



Peregrine Goals

- Robust Web Presence for users and operators
- Capitalize on informative power of real-time system
- Platform for revealing more about RT system to operators
- Clean integration with real-time system
- Familiar configuration patterns for operators
- Low user-maintenance cost and complexity
- Flexible and Extensible
- Self-contained
- Maintainable software base



What We Did

- Wrote our own web server
- Made it run under a real-time system (*rtexec*)
- Made it look and feel like our existing programs
- Made it connect easily to Antelope
- Wrote a caching daemon to generate products for it
- Added example web-site to GSN demo



rtwebserver

- Self-contained web-server:

```
% rtwebserver -v -P 8000
```

- Written in *Python* and *Twisted*

– *http://twistedmatrix.com*

- Runs under *rtexec*

- Parameter-file configures entire site

– *rtwebserver.pf*

- Logs connections to database

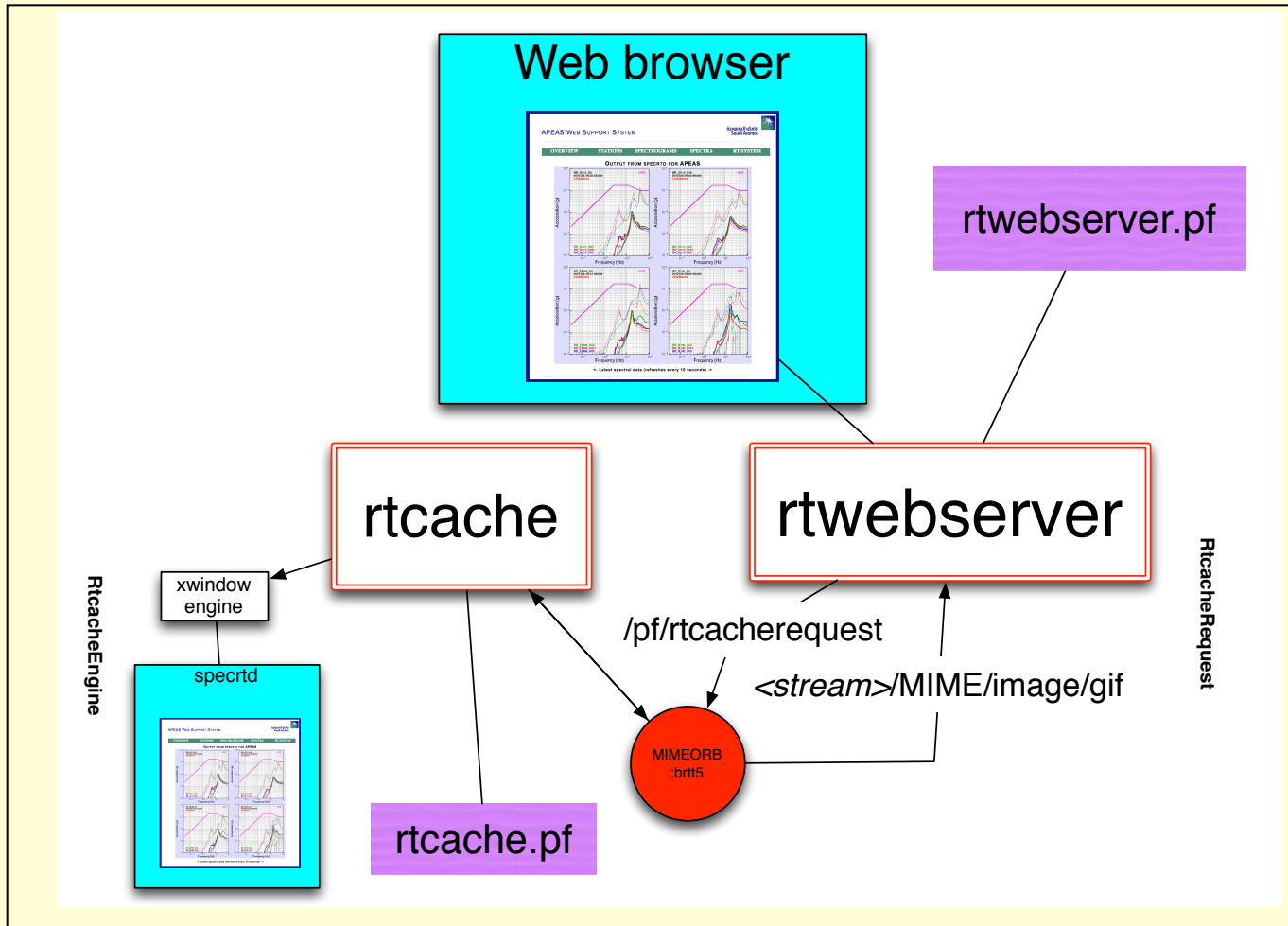


rtcache

- Generalized Caching Daemon
- Pre-builds products for the web server
- For Example:
 - Dynamic X-window screen-shots
 - Strong-motion alarm reports
 - Dbevents or orbrtd output
 - Anything you can code into *Python*
- Exchanges request/response via *orbserver*
- Can show on the web any GUI you can run as X-client



Peregrine Architecture

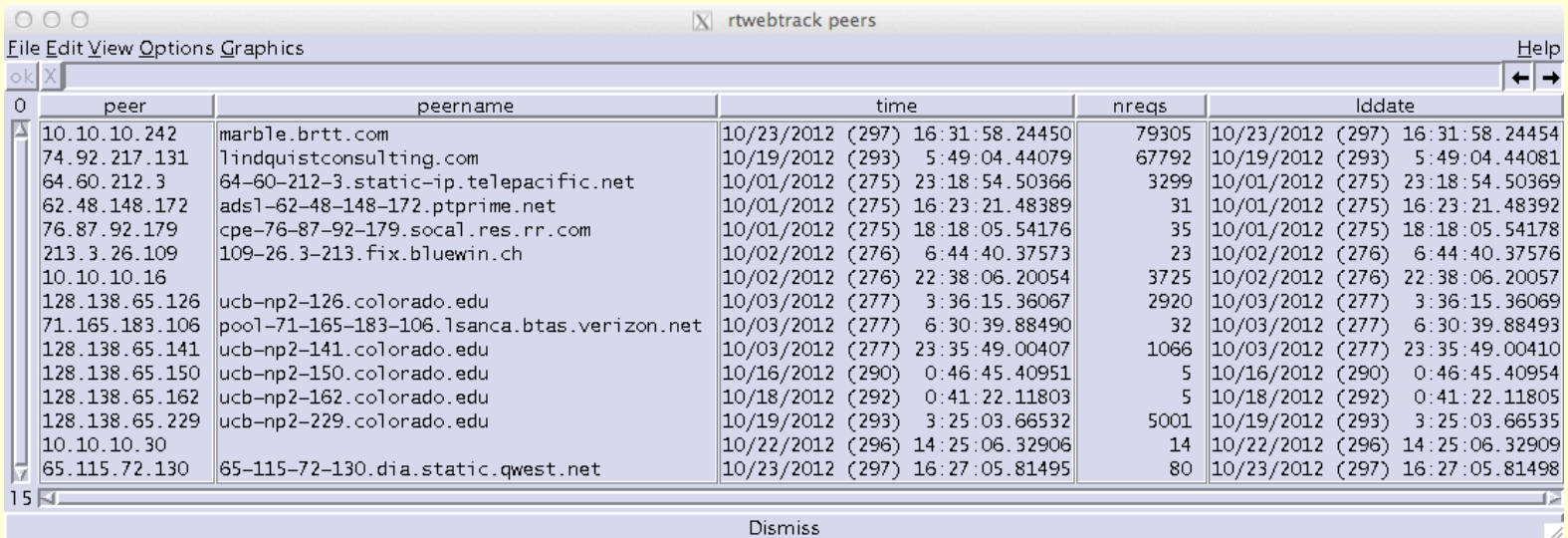


rtwebserver.pf

```
site &Arr{
  pages &Arr{
    index          rpy:webitems/index.rpy  index
    latest         rpy:webitems/latest.rpy
    rtm            rpy:webitems/rtm.rpy
    orbmonrtd     rpy:webitems/orbmonrtd.rpy
    sources        rpy:webitems/sources.rpy
    clients        rpy:webitems/clients.rpy
    dynamic &Arr{
      ximage       rtcache:ximage
    }
    images &Arr{
      brtt_logo.gif file:webitems/images/brtt_logo.gif
      dots.gif      file:webitems/images/dots.gif
    }
    css &Arr{
      style.css    pf:stylesheet  text/css
    }
  }
}
```



rtwebservice connection logging: who is connecting



peer	peername	time	nreqs	lddate
10.10.10.242	marble.brtt.com	10/23/2012 (297) 16:31:58.24450	79305	10/23/2012 (297) 16:31:58.24454
74.92.217.131	lindquistconsulting.com	10/19/2012 (293) 5:49:04.44079	67792	10/19/2012 (293) 5:49:04.44081
64.60.212.3	64-60-212-3.static-ip.telepacific.net	10/01/2012 (275) 23:18:54.50366	3299	10/01/2012 (275) 23:18:54.50369
62.48.148.172	ads1-62-48-148-172.ptprime.net	10/01/2012 (275) 16:23:21.48389	31	10/01/2012 (275) 16:23:21.48392
76.87.92.179	cpe-76-87-92-179.socal.res.rr.com	10/01/2012 (275) 18:18:05.54176	35	10/01/2012 (275) 18:18:05.54178
213.3.26.109	109-26.3-213.fix.bluewin.ch	10/02/2012 (276) 6:44:40.37573	23	10/02/2012 (276) 6:44:40.37576
10.10.10.16		10/02/2012 (276) 22:38:06.20054	3725	10/02/2012 (276) 22:38:06.20057
128.138.65.126	ucb-np2-126.colorado.edu	10/03/2012 (277) 3:36:15.36067	2920	10/03/2012 (277) 3:36:15.36069
71.165.183.106	pool-71-165-183-106.lsanca.btas.verizon.net	10/03/2012 (277) 6:30:39.88490	32	10/03/2012 (277) 6:30:39.88493
128.138.65.141	ucb-np2-141.colorado.edu	10/03/2012 (277) 23:35:49.00407	1066	10/03/2012 (277) 23:35:49.00410
128.138.65.150	ucb-np2-150.colorado.edu	10/16/2012 (290) 0:46:45.40951	5	10/16/2012 (290) 0:46:45.40954
128.138.65.162	ucb-np2-162.colorado.edu	10/18/2012 (292) 0:41:22.11803	5	10/18/2012 (292) 0:41:22.11805
128.138.65.229	ucb-np2-229.colorado.edu	10/19/2012 (293) 3:25:03.66532	5001	10/19/2012 (293) 3:25:03.66535
10.10.10.30		10/22/2012 (296) 14:25:06.32906	14	10/22/2012 (296) 14:25:06.32909
65.115.72.130	65-115-72-130.dia.static.qwest.net	10/23/2012 (297) 16:27:05.81495	80	10/23/2012 (297) 16:27:05.81498

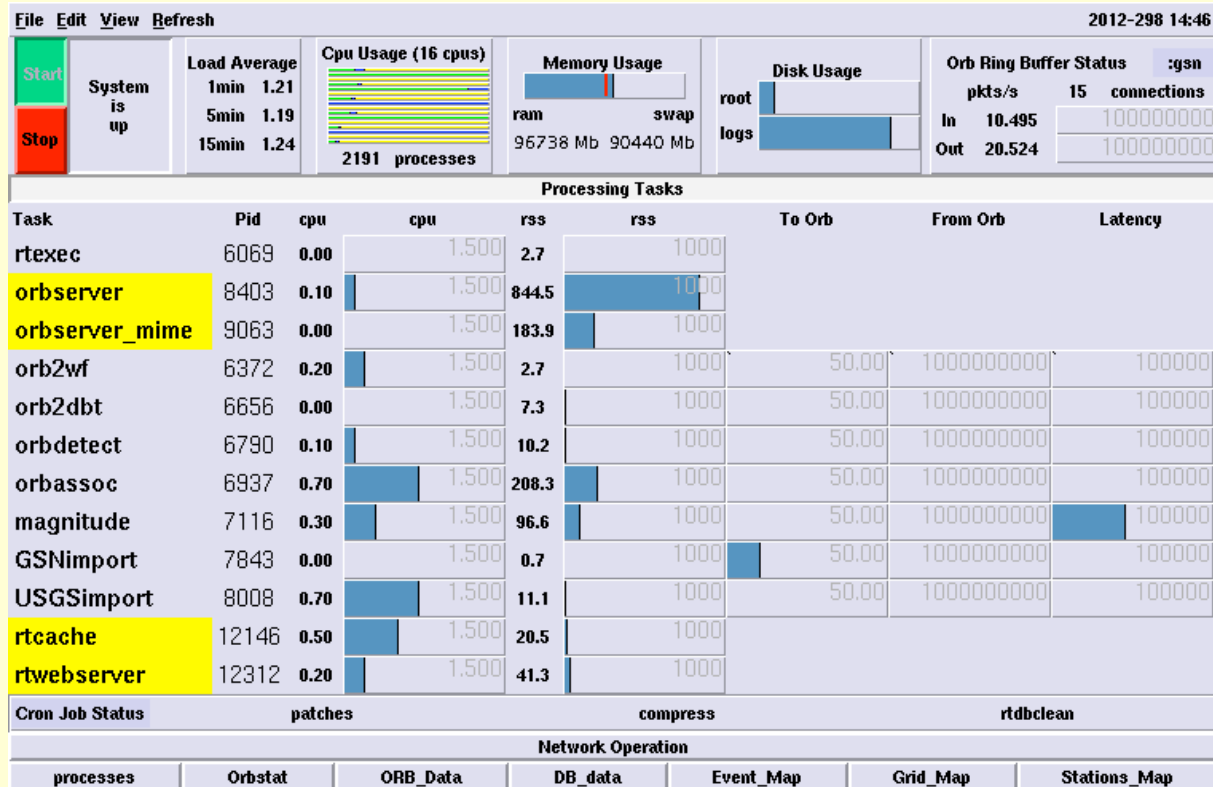


rtwebservice connection logging: what are they asking for

peer	peername	url	time	nreqs
10.10.10.30		/css/style.css	10/22/2012 (296) 14:25:06.32252	3
10.10.10.30		/images/brtt_logo.gif	10/22/2012 (296) 14:20:38.13648	2
10.10.10.30		/dynamic/xiimage?streamname=dbevents_all	10/22/2012 (296) 14:20:41.03933	3
10.10.10.30		/images/dots.gif	10/22/2012 (296) 14:20:38.13890	2
10.10.10.30		/latest	10/22/2012 (296) 14:25:06.24321	1
10.10.10.30		/dynamic/xiimage?streamname=dbevents	10/22/2012 (296) 14:25:06.32859	1
65.115.72.130	65-115-72-130.dia.static.qwest.net	/	10/23/2012 (297) 16:27:05.68632	11
65.115.72.130	65-115-72-130.dia.static.qwest.net	/css/style.css	10/23/2012 (297) 16:27:05.81482	22
65.115.72.130	65-115-72-130.dia.static.qwest.net	/images/brtt_logo.gif	10/23/2012 (297) 16:20:26.20780	8
65.115.72.130	65-115-72-130.dia.static.qwest.net	/images/dots.gif	10/23/2012 (297) 16:20:26.21243	8
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=dbevents_all	10/23/2012 (297) 16:20:26.21052	9
65.115.72.130	65-115-72-130.dia.static.qwest.net	/latest	10/23/2012 (297) 16:26:49.21218	3
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=dbevents	10/23/2012 (297) 16:26:49.32145	3
65.115.72.130	65-115-72-130.dia.static.qwest.net	/orbmonrtd	10/23/2012 (297) 16:26:52.32904	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=orbmonrtd	10/23/2012 (297) 16:26:52.44180	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/sources	10/23/2012 (297) 16:26:54.46522	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=tkorbstat_s	10/23/2012 (297) 16:26:54.58667	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/clients	10/23/2012 (297) 16:26:57.17975	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=tkorbstat_c	10/23/2012 (297) 16:26:57.30132	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/rtm	10/23/2012 (297) 16:26:59.05615	2
65.115.72.130	65-115-72-130.dia.static.qwest.net	/dynamic/xiimage?streamname=rtm	10/23/2012 (297) 16:26:59.17948	2



rtwebserver / rtcache in real-time system



Arbitrary X-client Display on Web

BRTT GLOBAL SEISMIC NETWORK DEMONSTRATION

DBEVENTS **RTD** **SOURCES** **CLIENTS** **RTM**

GSN DEMO ORB SOURCES

acronym	hgt	hgt/e	slidist	slidist/e	latency
IL_PALM_LAR_00/FEED	0.001	0.001	100-20.14	100-20.14	15 days 19.9 hours
IL_PERRY_LAR_00/FEED	2.351	1.119	110-21.37	110-21.43	4 days 2.1 hours
IL_MORR_LAR_00/FEED	39.413	20.134	110-05-08	110-14.01	4 days 1.8 hours
CU_PYRA_LAR_00/FEED	1.110	0.384	100-15.45	100-12.64	4 days 2.4 hours
CU_PYRA_LAR_00/FEED	28.852	9.418	110-15.25	110-12.78	4 days 3.2 hours
IL_LAR_LAR_00/FEED	1.548	0.813	100-18.37	100-09.16	4 days 10.3 hours
IL_LAR_LAR_00/FEED	20.397	10.724	100-18.38	100-01.21	4 days 11.3 hours
IL_SAV_LAR_00/FEED	2.273	1.199	100-18.37	100-11.88	4 days 4.0 hours
IL_SAV_LAR_00/FEED	100.870	57.268	100-18.38	100-11.94	4 days 3.9 hours
CU_TOWN_LAR_00/FEED	2.842	1.435	127-07.15	116-04.51	11.01 hours
CU_TOWN_LAR_00/FEED	97.139	51.095	127-07.17	116-04.54	10.70 hours
IL_RUIN_LAR_00/FEED	7.279	3.927	127-07.21	116-11.31	4.80 hours
IL_RUIN_LAR_00/FEED	189.390	99.603	127-07.22	116-11.35	4.28 hours
IL_SAVN_LAR_00/FEED	2.593	1.243	100-11.58	116-11.29	4.23 hours
IL_SAVN_LAR_00/FEED	84.982	28.447	100-11.02	116-11.20	4.02 hours
CU_BROW_LAR_00/FEED	4.015	2.112	127-07.21	116-12.43	3.08 hours
CU_BROW_LAR_00/FEED	130.934	68.972	127-07.22	116-12.44	3.08 hours
IL_PERR_LAR_00/FEED	0.331	0.375	127-14.24	116-12.48	3.08 hours
IL_PERR_LAR_00/FEED	9.521	1.694	127-08.47	116-12.58	2.93 hours
IL_SAB_LAR_00/FEED	11.124	24.891	127-08.32	116-13.05	2.64 hours
IL_SAB_LAR_00/FEED	2.740	1.426	100-15.70	116-13.01	2.52 hours
IL_SAB_LAR_00/FEED	39.739	20.303	120-21.32	116-13.39	2.12 hours
IL_SAB_LAR_00/FEED	1.127	0.429	127-07.11	116-14.00	1.52 hours
IL_COOL_LAR_00/FEED	22.429	11.813	127-07.32	116-14.44	1.07 hours
IL_COOL_LAR_00/FEED	2.984	1.370	127-08.51	116-15.11	40.20 minutes
IL_COOL_LAR_00/FEED	3.143	1.444	127-08.49	116-15.11	40.00 minutes
IL_COOL_LAR_00/FEED	148.054	148.051	127-07.33	116-15.12	39.00 minutes
IL_COOL_LAR_00/FEED	3.209	1.488	127-08.50	116-15.12	39.00 minutes
IL_COOL_LAR_00/FEED	3.709	1.951	127-08.50	116-15.14	37.00 minutes
IL_COOL_LAR_00/FEED	3.737	1.984	127-08.47	116-15.14	37.40 minutes
IL_COOL_LAR_00/FEED	3.111	1.424	127-08.47	116-15.14	37.00 minutes
IL_COOL_LAR_00/FEED	3.547	1.874	127-08.48	116-15.15	36.10 minutes
IL_COOL_LAR_00/FEED	3.176	1.470	127-08.51	116-15.15	36.10 minutes
IL_COOL_LAR_00/FEED	3.309	1.844	127-08.48	116-15.17	34.10 minutes
IL_COOL_LAR_00/FEED	2.454	1.291	127-07.52	116-15.20	31.50 minutes

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tkorbstat clients display

BRTT GLOBAL SEISMIC NETWORK DEMONSTRATION

DBEVENTS **RTD** **SOURCES** **CLIENTS** **RTM**

GSN DEMO ORB CLIENTS

the name	pkts/s	kb/s	comment	who	pid	host
23	0.0	0.000	0.000 subdetest --maxkgpsdms H --state state/subdetest --rt			10484
20	0.0	0.000	0.000 /statqgshd.7			10428
19	25.0	11.481	4.040 subdetest --state state/subdetest --rt --rt --rt --rt --rt			10700
18	0.0	0.000	0.000 subdetest --state state/subdetest --rt --rt --rt --rt			10737
14	0.0	0.000	0.000 subdetest --maxkgpsdms H --state state/subdetest --rt			10481
13	0.0	0.004	0.001 subdetest --maxkgpsdms H --state state/subdetest --rt			10480

the name	pkts/s	kb/s	comment	who	pid	host
10490	0.0	0.013	0.003 subdetest --maxkgpsdms H --state state/subdetest --rt			10484
10497	0.0	0.013	0.003 subdetest --maxkgpsdms H --state state/subdetest --rt			10484
10494	0.0	0.013	0.003 subdetest --state state/subdetest --rt --rt --rt --rt			10737
21700	25.0	11.485	4.040 subdetest --rt --rt --rt --rt --rt --rt			21112
11699	25.0	11.480	4.040 subdetest --state state/subdetest --rt --rt --rt --rt			10497
21698	25.0	11.480	4.040 subdetest --maxkgpsdms H --state state/subdetest --rt			10484
23	0.0	0.000	0.000 tkorbstat --rt --rt --rt --rt --rt --rt			11104
22	0.0	0.000	0.000 tkorbstat --rt --rt --rt --rt --rt --rt			10494
21	0.0	0.000	0.000 rtm --rt --rt --rt --rt --rt --rt			10478


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tkorbstat sources display



RTM System Status on Web



BRTT GLOBAL SEISMIC NETWORK DEMONSTRATION

DBEVENTS
RTD
SOURCES
CLIENTS
RTM

REAL-TIME MONITOR FOR GSN DEMO

File Edit View Refresh Autelope 5.4 2014-136 15:58


System is up	Load Average 1min: 0.83 5min: 0.92 15min: 1.00	Cpu Usage (8 cpus) 489 processes	Memory Usage 32110 Mb / 4032 Mb	Disk Usage root	Orb Ring Buffer Status pkts: 15 connections In: 11,189 Out: 33,326
------------------------	--	--	---	---------------------------	--

Processing Tasks											
Task	Pid	cpu	cpu	rss	rss	To Orb	To Orb	From Orb	From Orb	Latency	Latency
rtexec	10539	0.00	15.00	1.8	10000						
orbserver	10560	0.38	15.00	21.1	10000						
orbserver_mime	10579	0.00	15.00	50.2	10000						
orb2wf	10597	0.38	15.00	25.3	10000	8.0 kbps	50.0%	11.1 Kbps	1000000000	4:14 hours	20000
orb2dbt	10624	0.10	15.00	7.3	10000	8.0 kbps	50.0%	8.0 kbps	1000000000	1:15 minutes	20000
orbdetect	10650	0.10	15.00	11.6	10000	8.0 kbps	50.0%	11.1 Kbps	1000000000	4:14 hours	20000
orbassoc	10681	1.90	15.00	210.9	10000	8.0 kbps	50.0%	8.0 kbps	1000000000	2:14 hours	20000
magnitude	10737	0.20	15.00	230.4	10000	8.0 kbps	50.0%	8.0 kbps	1000000000	2:14 hours	20000
GSNimport	10790	0.10	15.00	31.7	10000	11.1 Kbps	50.0%	8.0 kbps	1000000000	4:14 hours	20000
USGSimport	10828	0.20	15.00	186.5	10000	8.0 kbps	50.0%	8.0 kbps	1000000000	38:33 minutes	20000
rtcache	10880	14.50	15.00	4990.2	10000						
rtwebserver	11590	0.20	15.00	50.6	10000						

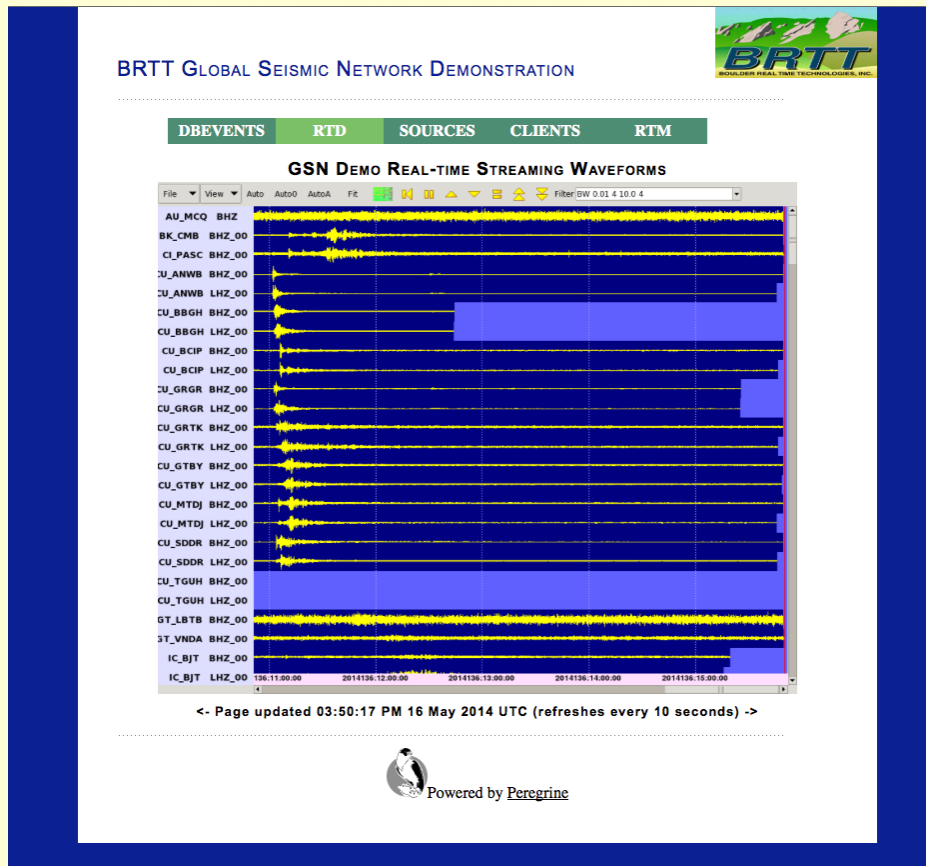
Compress Job Status
patches
compress
rtclean

processes
Orbital
ORB_Data
DB_data
Event_Map
Grid_Map
Status_Map

<- Page updated 03:51:07 PM 16 May 2014 UTC (refreshes every 10 seconds) ->



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Real-time Waveform Display on Web



Latest Earthquakes on Web

BRTT GLOBAL SEISMIC NETWORK DEMONSTRATION

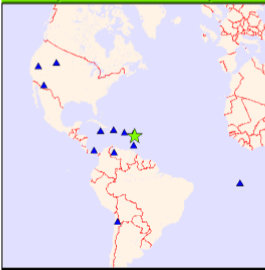


DBEVENTS
RTD
SOURCES
CLIENTS
RTM

RECENT EARTHQUAKES FROM GSN DEMO

Show Waveforms Database editing enabled Current Time: 2014-136 (16 May) 15:50:02 GMT

Mb 4.8 LEEWARD ISLANDS pref. lat 16.77 pref. lon -61.22 pref. depth 75 km T + 3.19 hours



Displayed Origin

Preference: Preferred

Lat: 16.7713°

Lon: -61.2217°

Depth: 75.9628 km (±37)

Region: LEEWARD ISLA

Magnitudes: majax
iddbs
confidence interv

Origin Time (GMT): 2014-136 (16 Ma)

Origin Time (Local): 2014-136 (16 Ma)

Database IDs: eivid 161601
orig 161602
prefor 161603

Phases: 13 defning
13 associated

Author: Antelope Real-tir

Latest Magnitudes

author Mb

USGS 4.8


Best Moment Tensor

Scalar Moment:
Percent Double-Couple:
Strike, Dip, Rake 1:
Strike, Dip, Rake 2:
Derived Mag:
MT Author:

origin time	wid	ndof	P	gradback	mag	region
2014-136 (16 May) 10:30:33 UTC	161681	18	*	Antelope	4.8 Mb	LEEWARD ISLANDS
2014-136 (16 May) 11:28:29 UTC	161683	22	*	Antelope	4.9 Mb	NEAR EAST COAST OF KAMCHATKA
2014-136 (16 May) 11:52:01 UTC	161686	9	*	Antelope	5.0 Mb	LEEWARD ISLANDS
2014-136 (16 May) 11:01:40 UTC	161640	20	*	Antelope	6.0 Mwp	LEEWARD ISLANDS
2014-136 (16 May) 11:01:30 UTC	161644	9	*	USGS	6.0 M	LEEWARD ISLANDS
2014-136 (16 May) 10:33:34 UTC	160302	8	*	Antelope	4.7 Mb	BAMOA ISLANDS REGION
2014-136 (16 May) 10:02:08 UTC	160318	11	*	Antelope	5.2 Mb	ANDREANOF ISLANDS, ALEUTIAN IS.
2014-136 (16 May) 08:30:06 UTC	157676	10	*	Antelope	5.1 Mb	PAKISTAN
2014-136 (16 May) 00:40:06 UTC	153750	10	*	Antelope	5.3 Ma	SOUTH-EAST OF LOYALTY ISLANDS
2014-135 (15 May) 22:43:20 UTC	151177	8	*	Antelope	5.3 Mb	OFF COAST OF NORTHERN PERU
2014-135 (15 May) 22:43:18 UTC	152483	0	*	USGS	5.1 Mb	NEAR COAST OF NORTHERN PERU
2014-135 (15 May) 18:33:11 UTC	147354	11	*	Antelope	4.9 Mb	BAMOA ISLANDS REGION
2014-135 (15 May) 10:17:00 UTC	143540	26	*	Antelope	6.4 Mwp	ILLU BEA
2014-135 (15 May) 09:48:58 UTC	143036	9	*	Antelope	4.8 Mb	NEAR E. COAST OF HONSHU, JAPAN
2014-135 (15 May) 08:17:42 UTC	142270	22	*	USGS	6.6 M	E. CAROLINE ISLANDS, MICRONESIA
2014-135 (15 May) 08:16:34 UTC	142269	22	*	Antelope	6.6 Mwp	E. CAROLINE ISLANDS, MICRONESIA
2014-134 (14 May) 20:58:14 UTC	130615	27	*	Antelope	6.5 Mw	F. DASHUINF ISLANDS, MICRONESIA

Status: Database updated 37:35 minutes ago (tables updated: origin, netmag, mt, event)

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Peregrine Added Cost For Antelope 5.4 Users:

\$ 0.00



Setup notes

- Please read and apply setup notes when setting up new systems:
 - *man notes_linux_setup(5)*
 - *man notes_mac_setup(5)*
- Preventatives for common problems:
 - spotlight on Mac
 - case-sensitive filesystems on Mac
 - out-of-memory killer (OOM) on Linux
 - etc.

Coming in Antelope 5.5

- New Graphics
- Commercial “Qt” toolkit
 - www.digia.com/qt
 - Cross-platform application and UI-Development framework
 - C++
- Multi-year effort

Qt Goals

- Modern “look and feel” for applications
 - Proper anti-aliasing support
 - Proper alpha-blending support
- *Improved maps*
- Get away from dying/dead TCL/Tk language
 - Hard to maintain TCL/Tk apps
 - Looks dated

dbe_pre

- Rewrite of classic dbe application
- New features:
 - Modern look and feel
 - In-cell editing
 - Fast table scrolling
 - More efficient layout
 - Sophisticated tooltips with most dbhelp info

dbe_pre

dbe_pre: /opt/antelope/data/db/demo/demo

File Options

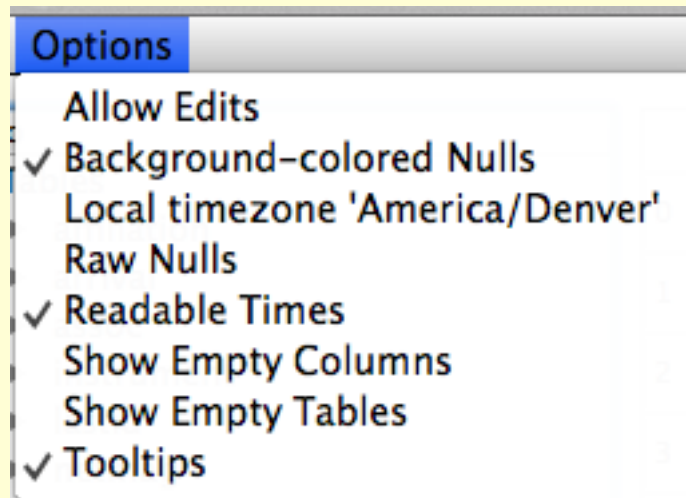
demo

- Tables
 - affiliation
 - arrival
 - assoc
 - instrument
 - lastid
 - netmag
 - network
 - origin**
 - sensor
 - site
 - sitechann
 - stamag
 - wfdisc
- Views

	lat	lon	depth	time	orid	jdate	nass	ndef
0	40.0740	69.1640	155.1660	4/27/92 (118) 10:51:40.66886 UTC	1	1992118	7	7
1	36.9340	71.0010	0.0000	4/27/92 (118) 18:02:36.21221 UTC	2	1992118	7	7
2	37.8700	69.7160	248.0190	4/27/92 (118) 20:02:08.27431 UTC	3	1992118	6	6
3	5.6020	124.0540	477.0000	4/28/92 (119) 01:55:47.20000 UTC	4	1992119	8	247
4	8.7370	126.6880	440.7540	4/28/92 (119) 01:55:49.32598 UTC	5	1992119	8	8
5	41.7760	72.2910	4.4830	4/28/92 (119) 06:40:35.57905 UTC	6	1992119	8	8
6	42.7720	71.5250	225.5050	4/28/92 (119) 07:17:54.71368 UTC	7	1992119	7	7
7	38.5400	76.2530	33.0000	4/28/92 (119) 08:52:52.36723 UTC	8	1992119	6	6
8	39.8610	75.8050	0.0000	4/28/92 (119) 09:26:28.97884 UTC	9	1992119	5	5
9	8.9210	124.0710	568.0000	4/28/92 (119) 09:31:21.70000 UTC	10	1992119	7	142
10	9.5440	123.8020	520.6560	4/28/92 (119) 09:31:23.48651 UTC	11	1992119	7	7
11	43.0250	74.9040	0.0000	4/28/92 (119) 10:37:32.39026 UTC	12	1992119	8	8
12	37.2890	69.8470	115.0000	4/28/92 (119) 14:32:20.37600 UTC	13	1992119	8	8
13	39.9120	79.0960	14.0000	4/28/92 (119) 15:53:53.00000 UTC	14	1992119	10	14
14	40.3030	79.0230	36.2840	4/28/92 (119) 15:53:59.24475 UTC	15	1992119	10	10
15	-5.6310	133.7880	33.0000	4/28/92 (119) 17:26:53.20000 UTC	16	1992119	2	77
16	22.4300	98.9350	33.0000	4/28/92 (119) 21:03:03.60000 UTC	17	1992119	6	35
17	25.9130	99.3710	10.4580	4/28/92 (119) 21:03:23.54895 UTC	18	1992119	6	6
18	43.3650	77.0060	19.2340	4/29/92 (120) 05:35:09.07713 UTC	19	1992120	8	8
19	39.7720	66.7010	0.0000	4/29/92 (120) 05:42:55.79092 UTC	20	1992120	7	7
20	43.3750	74.6750	5.7500	4/29/92 (120) 06:25:33.56857 UTC	21	1992120	6	6
21	42.6570	74.8570	8.6820	4/29/92 (120) 09:02:06.22310 UTC	22	1992120	8	8

dbe_pre

- Progressively adding standard options



- Generic object-class for standard interaction over multiple applications

Thank You

