

Antelope Web Technologies

*Antelope Users' Group Meeting
February 27-28, 2007
Trieste, Italy*

*Dr. Kent Lindquist
Lindquist Consulting, Inc.*

Antelope Interface for PHP

- “PHP Hypertext Preprocessor”
- A convenient web language, mixes with HTML
- **Finished!**
- Matches Perl interface
- PHP 5
- Full Object-oriented support for orb packets
- All database operations
- 2+ years of effort

Antelope Interface for PHP

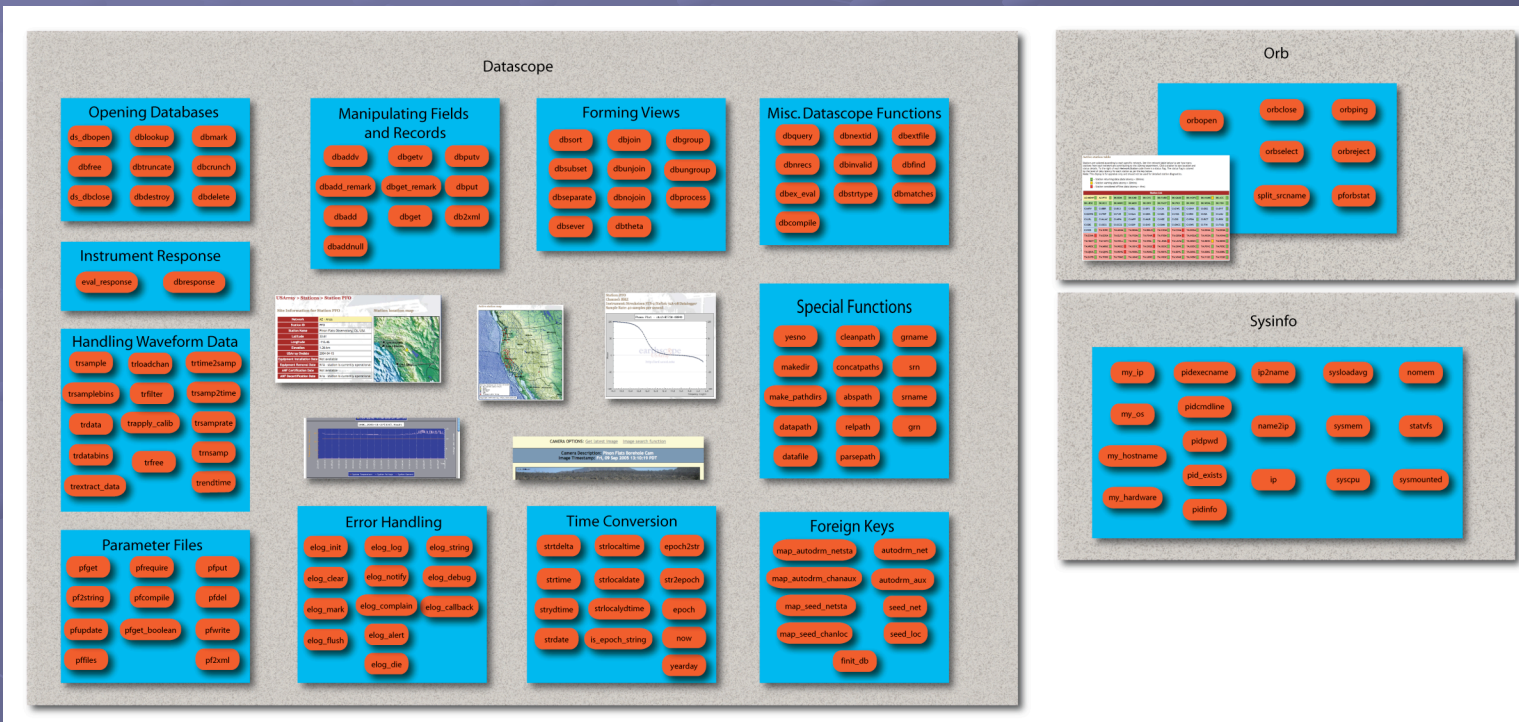
● Examples:

- Presented by Dr. Frank Vernon
- U.S. Array Network Facility
- Collaboration with Dr. Rob Newman

● This talk:

- Core tools

PHP Interface



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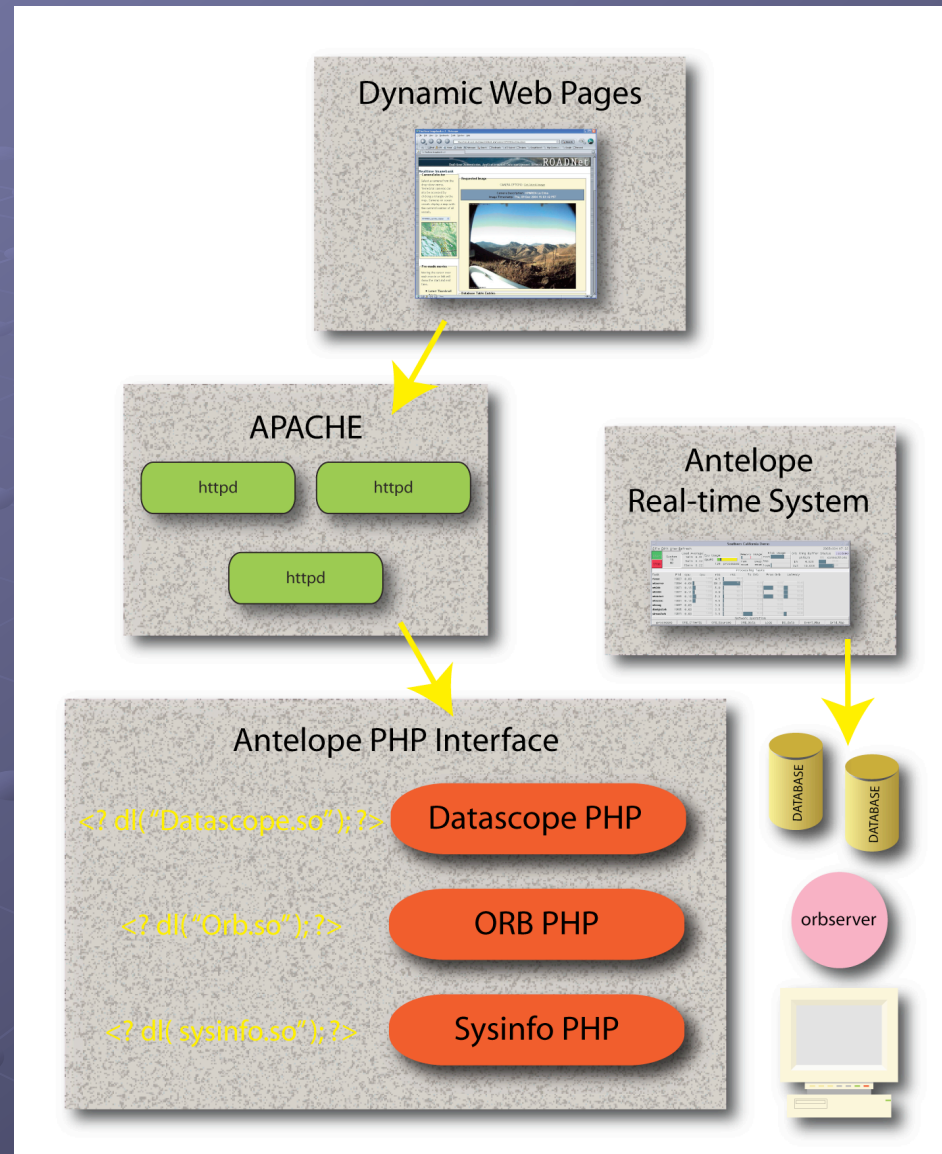
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System Context: PHP Interface

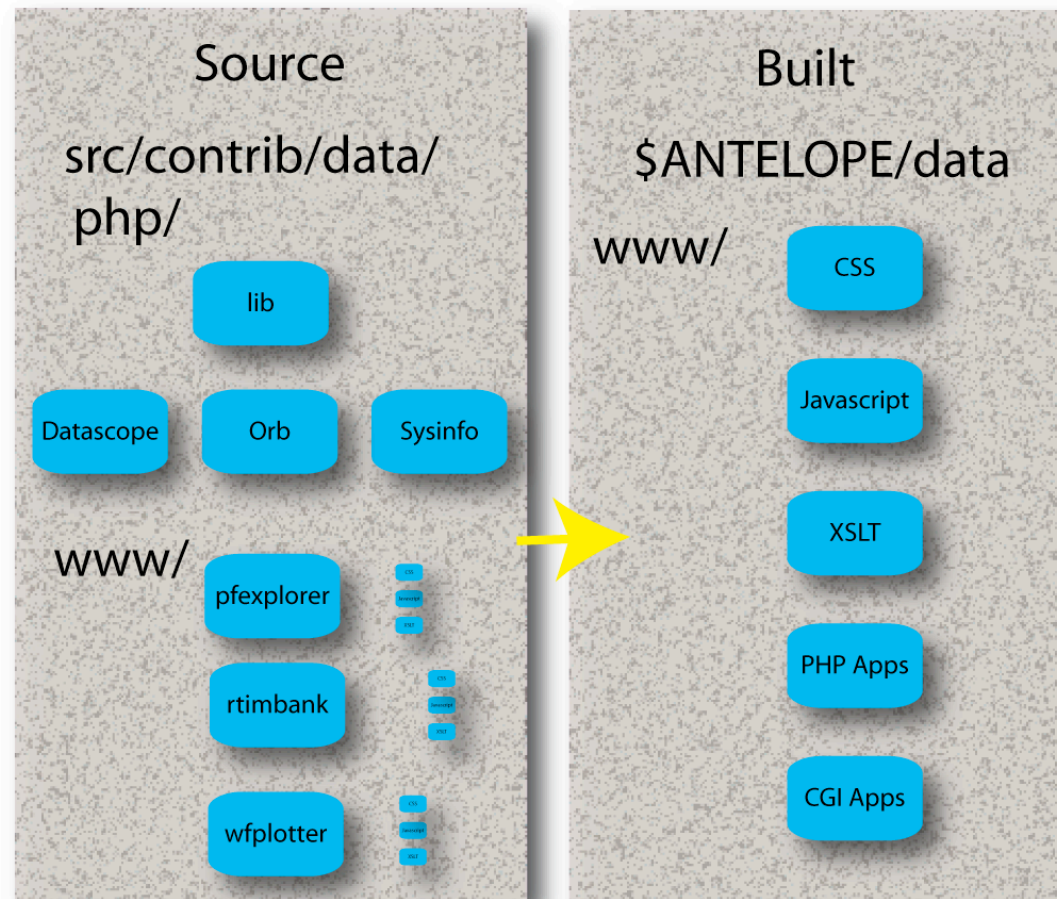
Dynamic Web Pages

Apache mod PHP

Dynamic Link Libraries

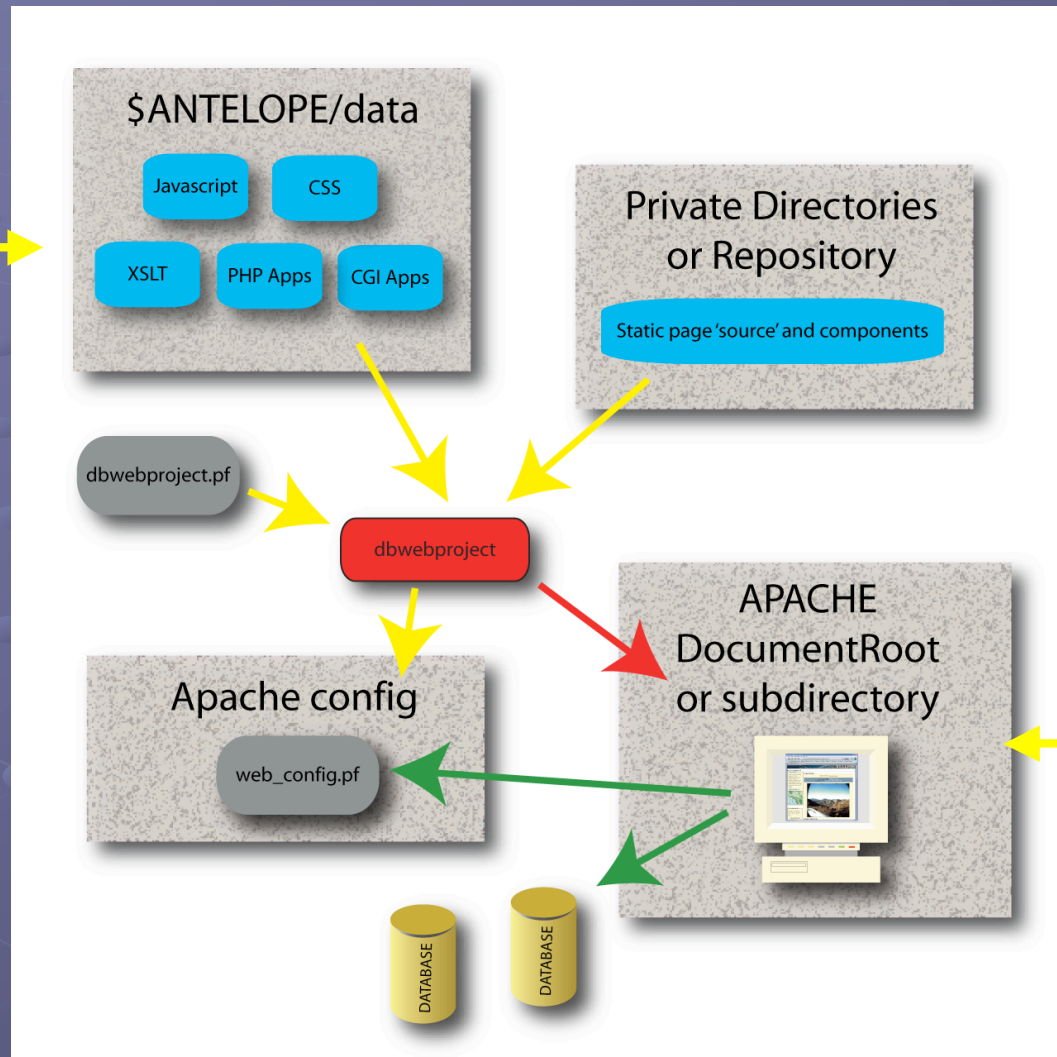


PHP Compilation Architecture



dbwebproject

Built



Installed

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Dbwebproject

- Reproducible web-page generation
- Configurable templates
- Parameter-file driven
- Integrated with Antelope software-generation architecture

PHP Applications

- Webdlmon
- Real-time Image Bank
- Webdbe
- Stations.php
- Pfexplorer
- Webdbshow
- Weborbstat
- Wfplotter

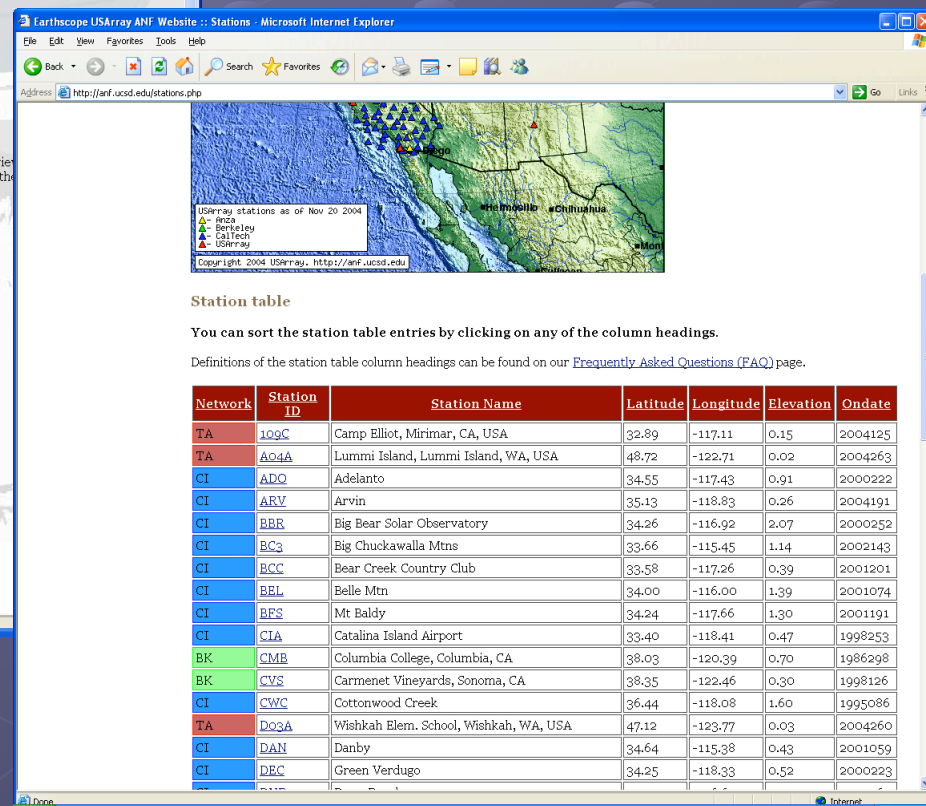
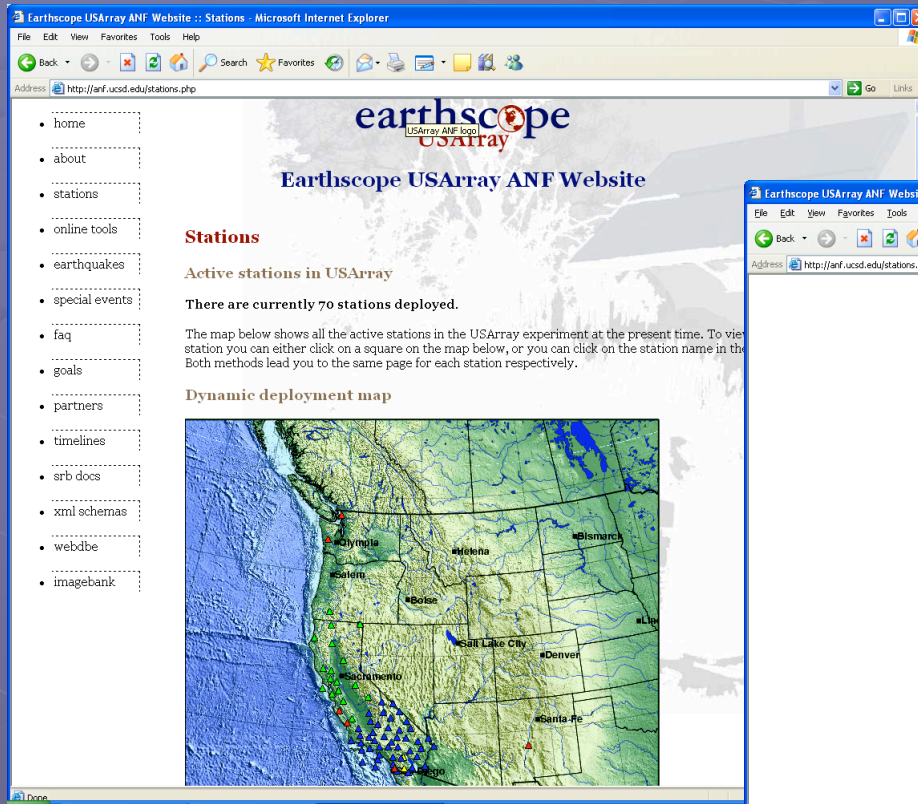
PHP Applications

- With David Slater's lead, U. Nevada Reno:
 - PHP Mobile applications
 - ShakeMap Mobile
- SSA 2007 presentation

PHP Code Samples

- In contributed-code repository:
 - Examples_datascopes_php
 - Examples_orb_php
- \$ANTELOPE/example/php
- (Partial list; also D. Slater, UNR)

Clickable Station Maps



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Station Details; Earthquakes at each station

Earthscope USArray ANF Website

Stations > Station Details

Site Information for Station

Network	CI - CalTech
Station ID	BBR
Station Name	Big Bear Solar Observatory
Latitude	34.26
Longitude	-116.92
Elevation	2.07
Ondate	2000252

Recent Events Recorded at Station BBR

You can see a list of earthquakes recorded at station BBR in the last seven days.

Instrument Response Functions Dynamic Plotting

Plot the instrument response functions dynamically for different channels for station

BHE Plot

[back to the list of current stations in the USArray](#)

[home](#) | [about](#) | [stations](#) | [earthquakes](#) | [special events](#) | [faq](#) | [goals](#) | [partners](#) | [timelines](#) | [srb docs](#) | [xml schemas](#)

Last updated: 11/27/04

W3C XHTML 1.0 W3C CSS W3C WCAG 508

Earthscope USArray ANF Website

Stations > Station Details > Recent Events Recorded at Station BBR

Event Information for Station BBR

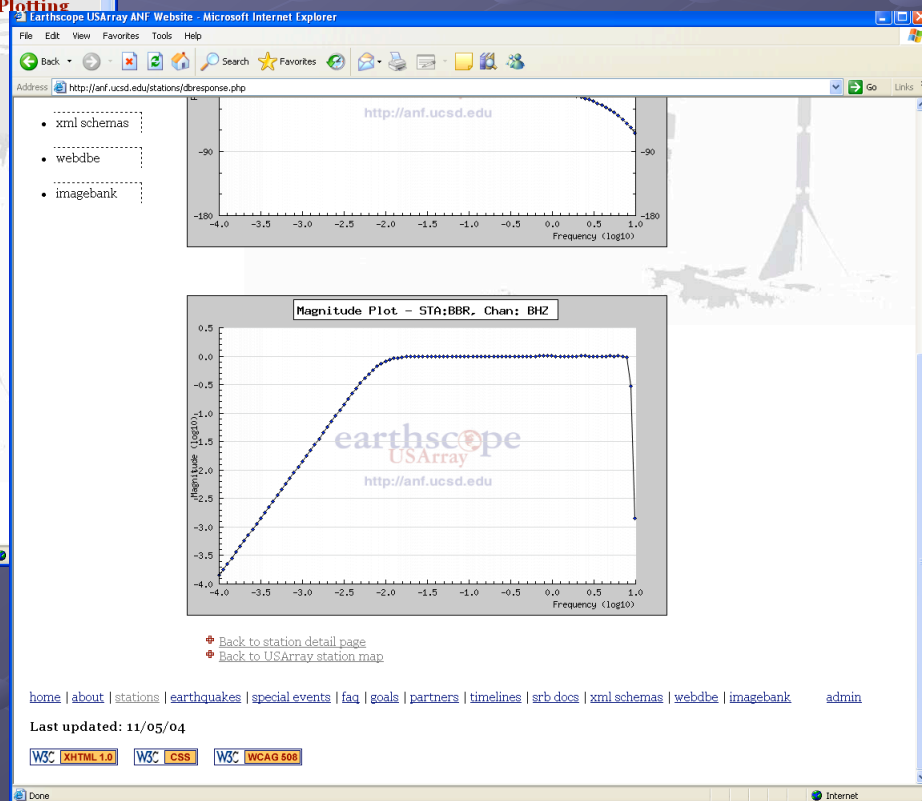
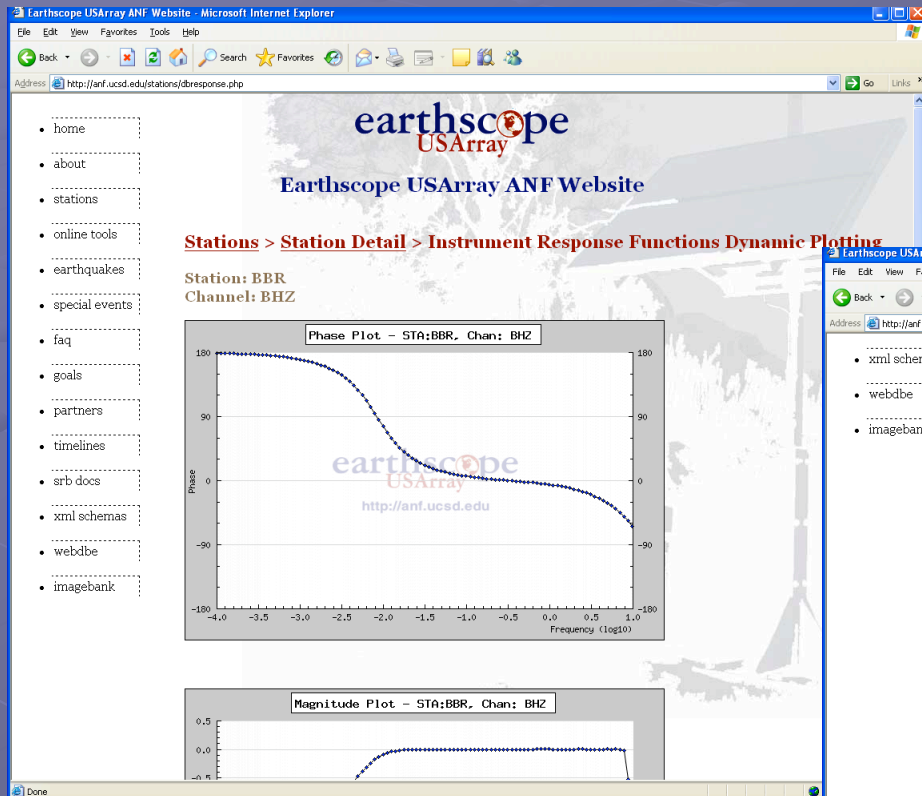
The table below shows all the events that have been recorded in the last seven days at station BBR, most recent first.

Earthquakes recorded at station BBR in the last seven days: 19									
Latitude	Longitude	Depth (km)	Local Time	Universal Time	iPhase	Event ID	Magnitude	Author	
31.773	-115.8644	8.1154	Friday, November 26, 2004 07:00:45 AM	2004-11-26 (330) 15:00:45 (UTC)	P	6156	3.38 ML	CalTech	
-3.634	135.477	35	Thursday, November 25, 2004 06:43:29 PM	2004-11-26 (330) 02:43:29 (UTC)	P	6150	null	CalTech	
45.663	10.643	15	Wednesday, November 24, 2004 03:12:27 PM	2004-11-24 (328) 23:12:27 (UTC)	P	6147	5.3 Mb	CalTech	
35.398	-118.6434	9.1197	Wednesday, November 24, 2004 06:32:08 AM	2004-11-24 (328) 14:32:08 (UTC)	Lg	6101	null	CalTech	
34.3452	-118.6786	18.8393	Wednesday, November 24, 2004 12:25:08 AM	2004-11-24 (328) 08:25:08 (UTC)	P	6093	2.53 ML	CalTech	
36.596	-121.2368	12.4135	Tuesday, November 23, 2004 09:24:44 PM	2004-11-24 (328) 05:24:44 (UTC)	P	6086	4.04 ML	CalTech	
35.7988	-120.3321	17.2101	Tuesday, November 23, 2004 09:13:04 PM	2004-11-24 (328) 05:13:04 (UTC)	P	6085	2.97 ML	CalTech	
36.6003	-121.1998	6.37	Tuesday, November 23, 2004 06:12:54 PM	2004-11-24 (328) 02:12:54 (UTC)	S	6074	3.26 ML	CalTech	
36.61	-121.21	7.5	Tuesday, November 23, 2004 06:07:09 PM	2004-11-24 (328) 02:07:09 (UTC)	P	6069	4.4 Mb	CalTech	
35.067	-117.7076	7.7344	Tuesday, November 23, 2004 05:09:07 PM	2004-11-24 (328) 01:09:07 (UTC)	S	6066	2.66 ML	CalTech	
32.4502	-116.5216	10.2422	Tuesday, November 23, 2004 05:09:07 PM	2004-11-23 (327)	c	6064	null	CalTech	

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Instrument Response Curves



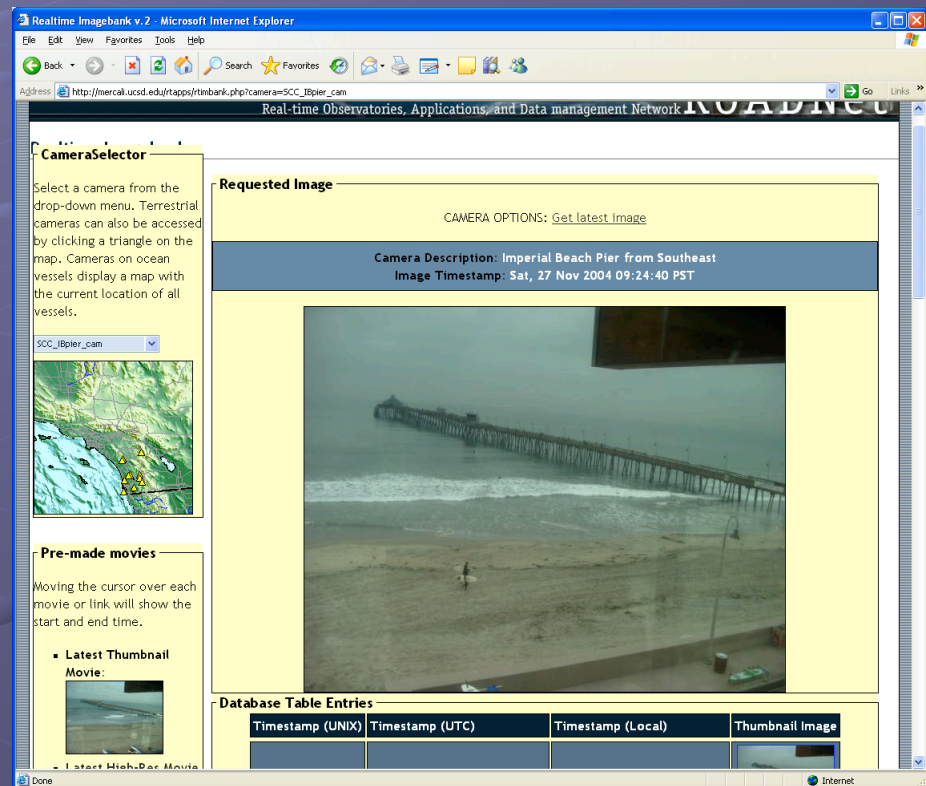
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Real-time Image Bank

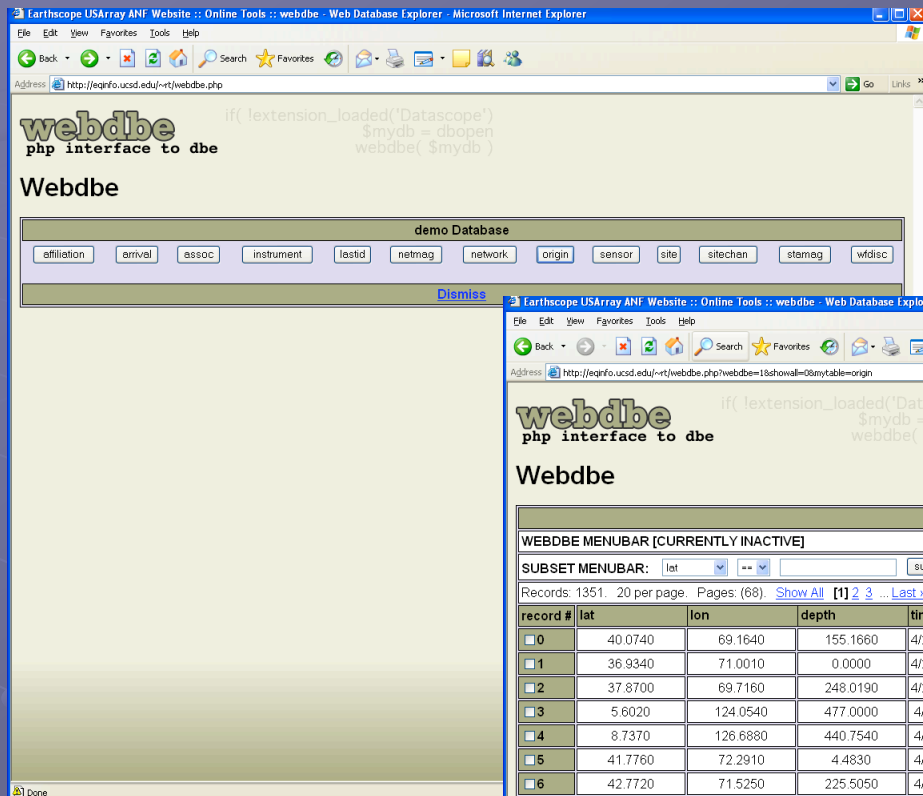
Remote cameras
acquired via
ORB

Database of
images
presented via
PHP code



Webdbe

Development Prototype



Web-based clone
of dbe(1)

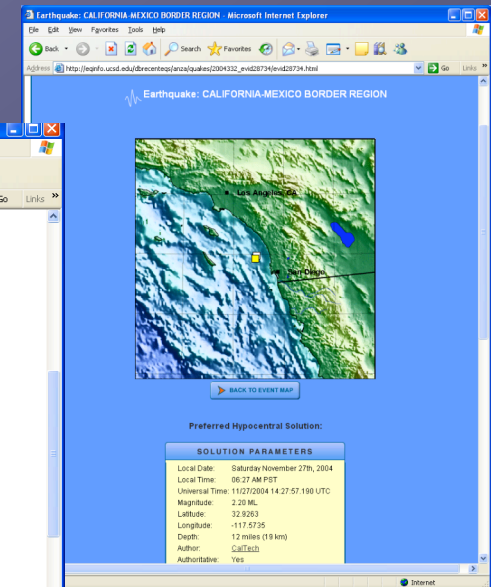
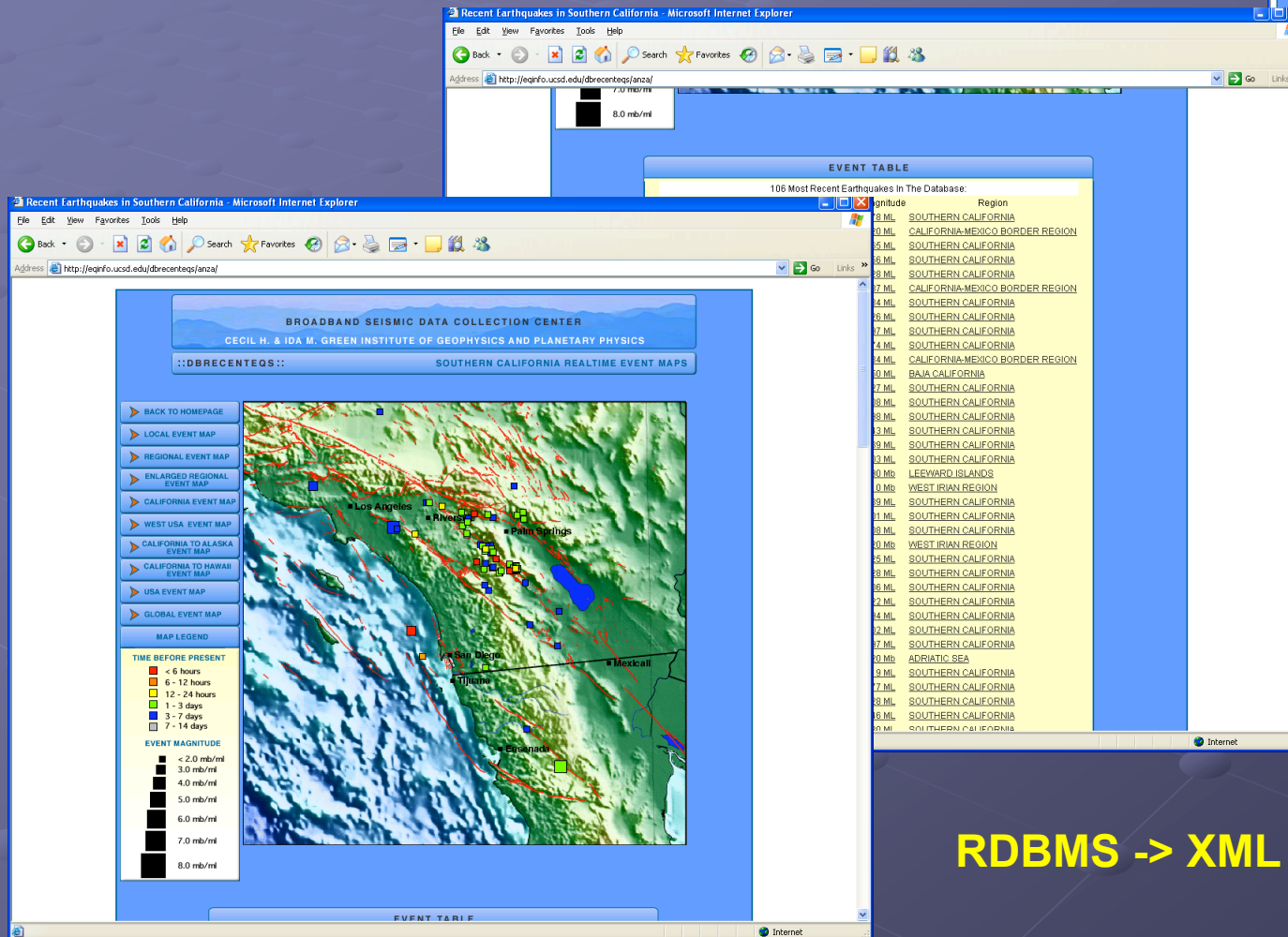
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The screenshot shows the webdbe interface displaying a data table. The address bar displays 'http://eqinfo.ucsd.edu/~rt/webdbe.php/webdbe=1&showall=0&mytable=origin'. The page title is 'webdbe php interface to db'. Below the title, there is a 'Webdbe' section. A 'WEBDBE MENUBAR [CURRENTLY INACTIVE]' is visible. Below the menu bar, there is a 'SUBSET MENUBAR' with a dropdown menu set to 'lat' and a 'subset' button. The table displays 17 records with columns: record #, lat, lon, depth, time, orid, jdate, nass, and nde. The table is paginated, showing 1351 records, 20 per page, and 68 pages. The 'Show All' link is active, and the page number '1' is selected.

record #	lat	lon	depth	time	orid	jdate	nass	nde
0	40.0740	69.1640	155.1660	4/27/1992 10:51:40.669	1	1992118	7	
1	36.9340	71.0010	0.0000	4/27/1992 18:02:36.212	2	1992118	7	
2	37.8700	69.7160	248.0190	4/27/1992 20:02:08.274	3	1992118	6	
3	5.6020	124.0540	477.0000	4/28/1992 1:55:47.200	4	1992119	8	
4	8.7370	126.6880	440.7540	4/28/1992 1:55:49.326	5	1992119	8	
5	41.7760	72.2910	4.4830	4/28/1992 6:40:35.579	6	1992119	8	
6	42.7720	71.5250	225.5050	4/28/1992 7:17:54.714	7	1992119	7	
7	38.5400	76.2530	33.0000	4/28/1992 8:52:52.367	8	1992119	6	
8	39.8610	75.8050	0.0000	4/28/1992 9:26:28.979	9	1992119	5	
9	8.9210	124.0710	568.0000	4/28/1992 9:31:21.700	10	1992119	7	
10	9.5440	123.8020	520.6560	4/28/1992 9:31:23.487	11	1992119	7	
11	43.0250	74.9040	0.0000	4/28/1992 10:37:32.390	12	1992119	8	
12	37.2890	69.8470	115.0000	4/28/1992 14:32:20.376	13	1992119	8	
13	39.9120	79.0960	14.0000	4/28/1992 15:53:53.000	14	1992119	10	
14	40.3030	79.0230	36.2840	4/28/1992 15:53:59.245	15	1992119	10	
15	-5.6310	133.7880	33.0000	4/28/1992 17:26:53.200	16	1992119	2	
16	22.4300	98.9350	33.0000	4/28/1992 21:03:03.600	17	1992119	6	
17	25.9130	99.3710	10.4580	4/28/1992 21:03:23.549	18	1992119	6	

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dbrecenteqs



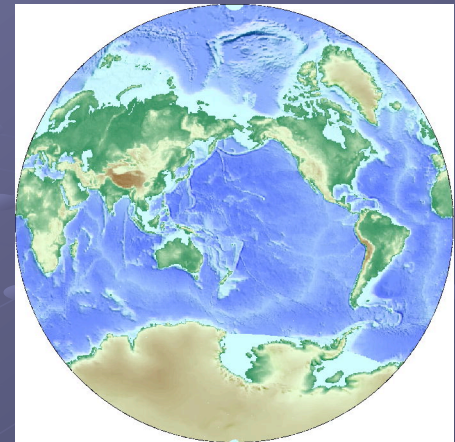
RDBMS -> XML -> XSLT -> HTML

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Incidental Note: Mapmaking

- Dbgmtgrid(1)
- Make_dbrecenteqs_map(1)



● World30 topo database:

- [EOS 85 p. 186, May 11 2004:](#)
[Global Topography and Bathymetry](#)
[Grids \(with K. Engle, D. Stahlke, E.](#)
[Price\)](#)
- <http://www.gina.alaska.edu/page.xml?group=data&page=griddata>

orb2rrd

- **Round-Robin Database**

- <http://people.ee.ethz.ch/oetiker/webtools/rrdtool/>

- Thanks Niko! (prototype scripts)

- Station status-monitoring:

- Graphic State-of-health histories
- Voltages, GPS locks, etc.

- Orb2rrd reads `./pf/st datalogger-status`
orb packets

- Creates RRD Cache Database

Perl XML tools

● **Datascope::db2xml**

- Arbitrary database views translated to XML
- Several different translation modes
- Basic output; transform with XSLT

● **Datascope::pf2xml**

- Arbitrary parameter-files translated to XML
- Several different translation modes
- Basic output; transform with XSLT

- Once again, Thanks Niko! (perlpolygon example)

Orbd1stat2xml

- Conversion of .*/pf/st datalogger status
- Creates directory of XML files
- Handles initial stash packets and periodic status updates
- Infrastructure support for **webdlmon**

Antelope Web Technologies: The Future

- Evaluating interest for more official support
 - Formal, professional-grade tools
 - Plug-n-play
 - Standardized
- What are key needs and concerns ?
 - Feedback welcome!