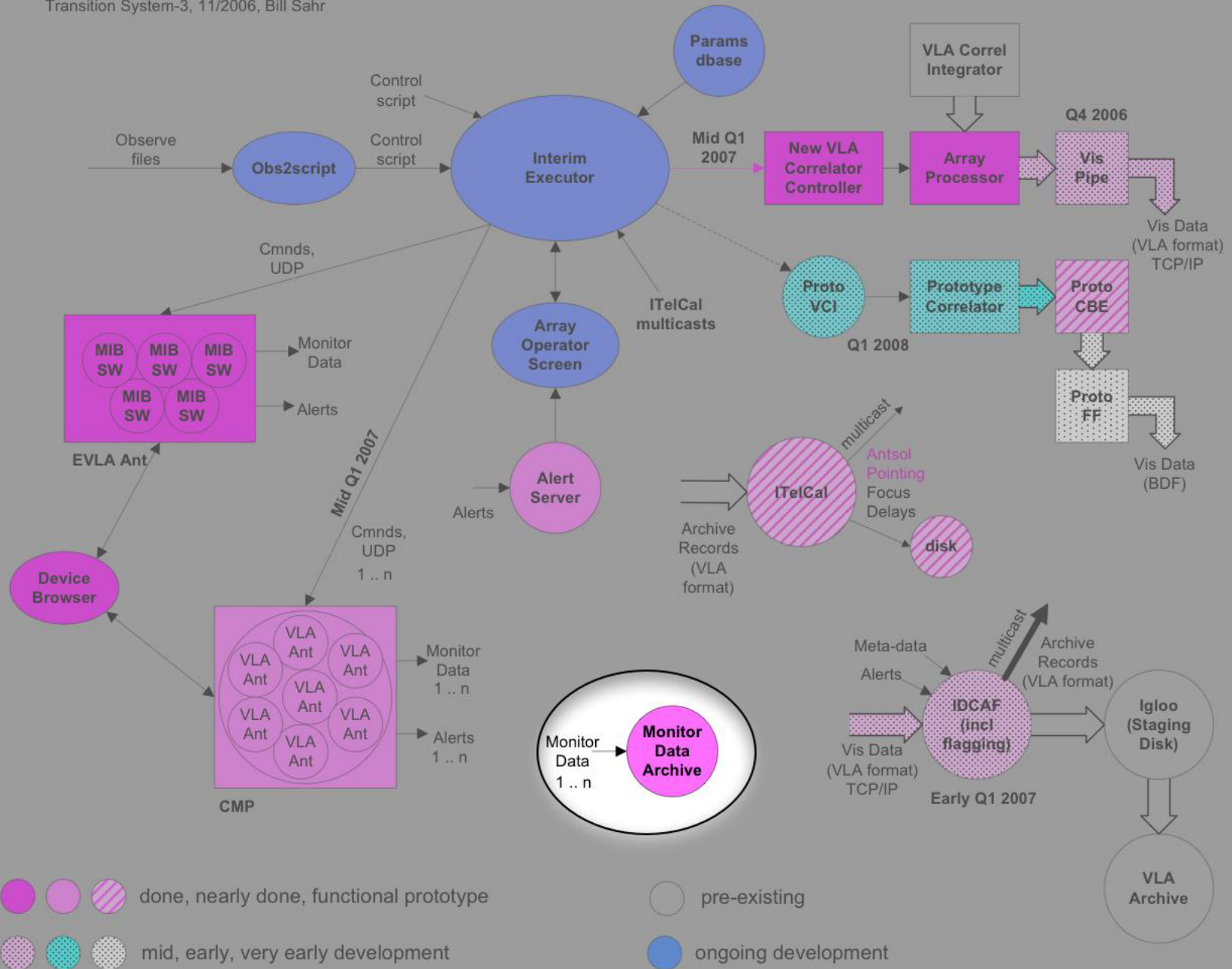


EVLA M&C CDR

EVLA Monitor Data Archive System

John Benson, Chunai Cai NRAO

Dec 6, 2006



done, nearly done, functional prototype

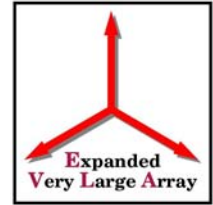
 mid, early, very early development

pre-existing

 ongoing development



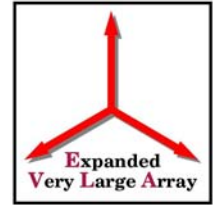
Monitor Data System Goals



- Ingest and store large amounts of monitor data
 - EVLA telescopes, WIDAR correlator
 - Other site modules (+AOC)
- Archived monitor data easily accessible
 - Accessible in real-time with web-based tools
 - Provide flexible query tools
 - Provide user friendly ‘what’s in the archive’ tool
 - Allow a variety of data output formats



Current Monitor Archive System



- Monitor Data Records
 - Slot_Id, Device Name, Mon Point Name, Time Stamp, Value
 - About 80 byte records -> Oracle DB tables at EVLA site
 - Currently 6 EVLA, 20 VLA ants, control room, benches
 - 127 devices, mon points : 300 VLA, 600 EVLA
- Monitor Archive Data Rate
 - 11.5 M records/day -> 1 GB/day, 10 kB/sec
 - Typical sample rate 1 per minute, some 1 per sec.
 - Expect 2000 mon pts per EVLA ant.
 - EVLA monitor data rate > 50 – 100 M recs/day (1 sample/min)

NRAO Archive DB Query Results - MPTSARCHIVECONTENTS2 Table Listing

Data Selection Parameters :

Start Time = 2006-Nov-15 00:00:00
 Stop Time = 2006-Nov-16 00:00:00
 antennaName = ea14-acu
 deviceName = ACU
 Download site = AOC
 Max Rows = 20000

Table Sort Order :

Sort By = TIMESTAMP
 Sort Order = Asc
 Sort By (2) = TIMESTAMP
 Sort Order (2) = Asc

Query Executes = 2006-Nov-29 16:22:46 UTC (0.216 s)

gila 4.8.1

AntName	Device	Mon Point	# Mon Values	First Time	Last Time
ea14-acu	ACU	MoreStuff	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELCur1	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELPosLimitStat	5706	06-Nov-15 01:02:27	06-Nov-17 01:01:40
ea14-acu	ACU	AZCur	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	AZCur1	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	AZPosRaw	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELVel	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	PhaseC	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	AZCur2	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELCur2	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	EIMtrStat	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	AZPosError	3063	06-Nov-15 01:02:17	06-Nov-17 01:02:00
ea14-acu	ACU	PhaseA	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	AZPos	5719	06-Nov-15 01:02:17	06-Nov-17 01:02:00
ea14-acu	ACU	AZVel	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELCur	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	ELPos	5719	06-Nov-15 01:02:17	06-Nov-17 01:02:00
ea14-acu	ACU	ELPosError	3638	06-Nov-15 01:02:17	06-Nov-17 01:01:30
ea14-acu	ACU	ELPosRaw	2858	06-Nov-15 01:02:47	06-Nov-17 01:01:30
ea14-acu	ACU	IF_Parity_Errors	4	06-Nov-15 07:45:07	06-Nov-15 23:37:00

List NRAO EVLA Monitor Data | List e2e VO Data Files - Mozilla | Mozilla Firefox

File Edit View Go B | File Edit View Go Bo | File Edit View Go Bookmarks Tools Help

← → ↻ × | ← → ↻ × | ← → ↻ × | http://archive.nrao.edu/monarchive/MonitorQuery?QUERY_ID=9999 | Go

NRAO A

Tabula

You are here : [Archive H](#)

Instructions on using this Summarize what monitor

Slot ID (Ant Name) :
Device Name :
Monitor Point Name :

Time Range From 2006
Time Zone : UTC

Output Table T
Table/Plot Date For
X-axis for
Y-axis for

Table Output :

Please direct feedback and (servlets version 4.8.0)

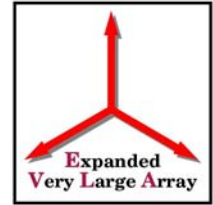
Date
Date
Start
Stop
anter
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mon
Dow
Max
Query

Displaying rows : 1312

AntName	Date	Time	Lat	Long	Mag
ea14-acu	06-Nov-15	01:02:17.750	0	370.183654785156	
ea14-acu	06-Nov-15	01:03:17.798	0	370.553405761719	
ea14-acu	06-Nov-15	01:02:47.731	0	370.368011474609	
ea14-acu	06-Nov-15	01:03:47.779	0	370.736724853516	
ea14-acu	06-Nov-15	01:05:17.808	0	371.289154052734	
ea14-acu	06-Nov-15	01:04:17.760	0	370.921447753906	
ea14-acu	06-Nov-15	01:04:47.827	0	371.104431152344	
ea14-acu	06-Nov-15	01:06:17.856	0	371.657531738281	
ea14-acu	06-Nov-15	01:05:47.788	0	371.472137451172	
ea14-acu	06-Nov-15	01:06:47.836	0	371.840850830078	
ea14-acu	06-Nov-15	01:07:17.817	0	372.023864746094	
ea14-acu	06-Nov-15	01:08:17.865	0	372.391540527344	
ea14-acu	06-Nov-15	01:08:47.932	0	372.573852539063	
ea14-acu	06-Nov-15	01:07:47.884	0	372.208892822266	
ea14-acu	06-Nov-15	01:09:17.913	0	372.757873535156	
ea14-acu	06-Nov-15	01:09:47.894	0	372.939849853516	
ea14-acu	06-Nov-15	01:10:17.961	0	373.121459960938	
ea14-acu	06-Nov-15	01:10:47.942	0	373.305145263672	
ea14-acu	06-Nov-15	01:11:47.990	0	373.670776367188	
ea14-acu	06-Nov-15	01:11:17.923	0	373.487426757813	
ea14-acu	06-Nov-15	01:12:17.971	0	373.851348876953	
ea14-acu	06-Nov-15	01:12:48.38	0	371.481048583984	
ea14-acu	06-Nov-15	01:13:47.999	0	363.950288685234	
ea14-acu	06-Nov-15	01:13:18.19	0	363.779998779297	
ea14-acu	06-Nov-15	01:14:48.48	0	364.289123535156	
ea14-acu	06-Nov-15	01:15:18.28	0	364.458038330078	
ea14-acu	06-Nov-15	01:14:17.980	0	364.119537353516	
ea14-acu	06-Nov-15	01:15:48.96	0	362.048950195312	
ea14-acu	06-Nov-15	01:16:18.76	0	346.39996378906	
ea14-acu	06-Nov-15	01:16:48.143	0	346.601501464844	
ea14-acu	06-Nov-15	01:17:18.124	0	346.796844482422	
ea14-acu	06-Nov-15	01:17:48.105	0	346.993896484375	
ea14-acu	06-Nov-15	01:18:48.153	0	350.054290771484	
ea14-acu	06-Nov-15	01:18:18.86	0	347.190277099609	
ea14-acu	06-Nov-15	01:20:18.182	0	352.044525146484	
ea14-acu	06-Nov-15	01:19:18.134	0	351.693664550781	
ea14-acu	06-Nov-15	01:19:48.115	0	351.868408203125	
ea14-acu	06-Nov-15	01:21:18.230	0	352.397125244414	
ea14-acu	06-Nov-15	01:21:48.211	0	352.574615478516	
ea14-acu	06-Nov-15	01:20:48.163	0	352.221008300781	
ea14-acu	06-Nov-15	01:22:48.259	0	352.927886962891	
ea14-acu	06-Nov-15	01:22:18.192	0	352.752105712891	
ea14-acu	06-Nov-15	01:23:18.239	0	353.105407714844	
ea14-acu	06-Nov-15	01:23:48.220	0	353.281860351563	
ea14-acu	06-Nov-15	01:24:18.288	0	353.459014892578	
ea14-acu	06-Nov-15	01:24:48.268	0	353.635498046875	
ea14-acu	06-Nov-15	01:26:18.297	0	354.168334960938	
ea14-acu	06-Nov-15	01:25:18.249	0	353.81298828125	
ea14-acu	06-Nov-15	01:25:48.316	0	353.991180419922	
ea14-acu	06-Nov-15	01:27:48.326	0	354.702178955078	
ea14-acu	06-Nov-15	01:27:18.345	0	354.523651123047	
ea14-acu	06-Nov-15	01:26:48.364	0	354.346160888672	
ea14-acu	06-Nov-15	01:28:18.393	0	354.879333496094	
ea14-acu	06-Nov-15	01:28:48.374	0	355.057525634766	
ea14-acu	06-Nov-15	01:29:18.355	0	355.236053466797	
ea14-acu	06-Nov-15	01:30:18.403	0	355.592437744141	
ea14-acu	06-Nov-15	01:29:48.422	0	355.413543701172	
ea14-acu	06-Nov-15	01:31:48.432	0	356.126983642578	



Upgrade Monitor Data Archive



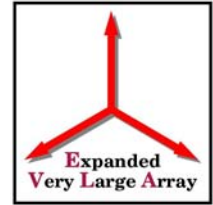
- Enhance user interface – Chunai
 - New web-based tool providing cascading menus of slot_ids, devices, and monitor points in the archive within a user specified time range.
 - Query returns monitor points from several antennas
 - Query can return large numbers of mpts efficiently (10000's)
- Reduce ingest data rate
 - Reset default sample rates on many mpts to 10-15 minutes
 - Auto reset to back default rate
- Increase Oracle storage efficiency

```
caid/Desktop/datafile(2).txt - gedit
File Edit View Search Tools Documents Help
Open Save Print Undo Redo Cut Copy Paste Find Replace
file(2).txt
/2006 11:40:31,54035.7400418,ea18-acu,ACU,AZPos,0,155.00785
/2006 11:47:01,54035.7409894,ea18-acu,ACU,AZPos,0,154.75446
/2006 11:47:31,54035.7413371,ea18-acu,ACU,AZPos,0,154.21613
/2006 11:48:01,54035.7416844,ea18-acu,ACU,AZPos,0,154.24977
/2006 11:48:31,54035.7420319,ea18-acu,ACU,AZPos,0,154.0012
/2006 11:49:01,54035.7423794,ea18-acu,ACU,AZPos,0,153.92087
/2006 11:49:31,54035.7427273,ea18-acu,ACU,AZPos,0,153.559
/2006 11:50:01,54035.7430748,ea18-acu,ACU,AZPos,0,154.59103
/2006 11:50:31,54035.7434221,ea18-acu,ACU,AZPos,0,175.21924
/2006 11:51:01,54035.7437695,ea18-acu,ACU,AZPos,0,175.81044
/2006 11:51:31,54035.7441117,ea18-acu,ACU,AZPos,0,175.78572
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/2006 11:54:01,54035.7458553,ea18-acu,ACU,AZPos,0,174.30325
/2006 11:54:31,54035.7462027,ea18-acu,ACU,AZPos,0,171.63083
/2006 11:55:01,54035.7465503,ea18-acu,ACU,AZPos,0,171.6782
/2006 11:55:31,54035.7468978,ea18-acu,ACU,AZPos,0,171.72559
/2006 11:56:01,54035.7472451,ea18-acu,ACU,AZPos,0,171.72421
/2006 11:56:32,54035.7475926,ea18-acu,ACU,AZPos,0,171.81966
/2006 11:57:01,54035.7479398,ea18-acu,ACU,AZPos,0,171.86703
/2006 11:57:32,54035.7482872,ea18-acu,ACU,AZPos,0,171.843
/2006 11:58:02,54035.7486347,ea18-acu,ACU,AZPos,0,170.42302
/2006 11:58:32,54035.748982,ea18-acu,ACU,AZPos,0,150.26036
/2006 11:59:02,54035.7493294,ea18-acu,ACU,AZPos,0,148.55199
/2006 11:59:32,54035.7496767,ea18-acu,ACU,AZPos,0,148.65979
/2006 02:00:13,54035.3334869,ea18-acu,ACU,ELPos,0,92.81387
/2006 02:00:43,54035.3338343,ea18-acu,ACU,ELPos,0,92.81387
/2006 02:01:13,54035.3341816,ea18-acu,ACU,ELPos,0,92.81387
/2006 02:01:43,54035.3345289,ea18-acu,ACU,ELPos,0,92.81387
/2006 02:02:13,54035.3348762,ea18-acu,ACU,ELPos,0,92.81284
/2006 02:02:43,54035.3352239,ea18-acu,ACU,ELPos,0,88.06469
/2006 02:03:13,54035.3355715,ea18-acu,ACU,ELPos,0,87.99946
/2006 02:03:43,54035.3359192,ea18-acu,ACU,ELPos,0,87.99946
/2006 02:04:13,54035.3362665,ea18-acu,ACU,ELPos,0,87.99946
Ln 1, Col 1 INS
```

```
Open
Remove
Open
Remove
desktop Clean Up
es.taglib.html.HtmlPanelGridTag tag) and path :
.ReducedHTMLParser parse
attr name or '>' at line 11
tocol pause
ce stop
ntext log
ntext log
ntext log
ntext log
tocol destroy
istener lifecycleEvent
```




New Interface Tool



New monitor data archive interface :

http://mctest:8080/aux_mon/main.faces