

Monitor and Control Software

EVLA Advisory Committee Meeting, March 19-20, 2009



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EVLA Computing Division Head

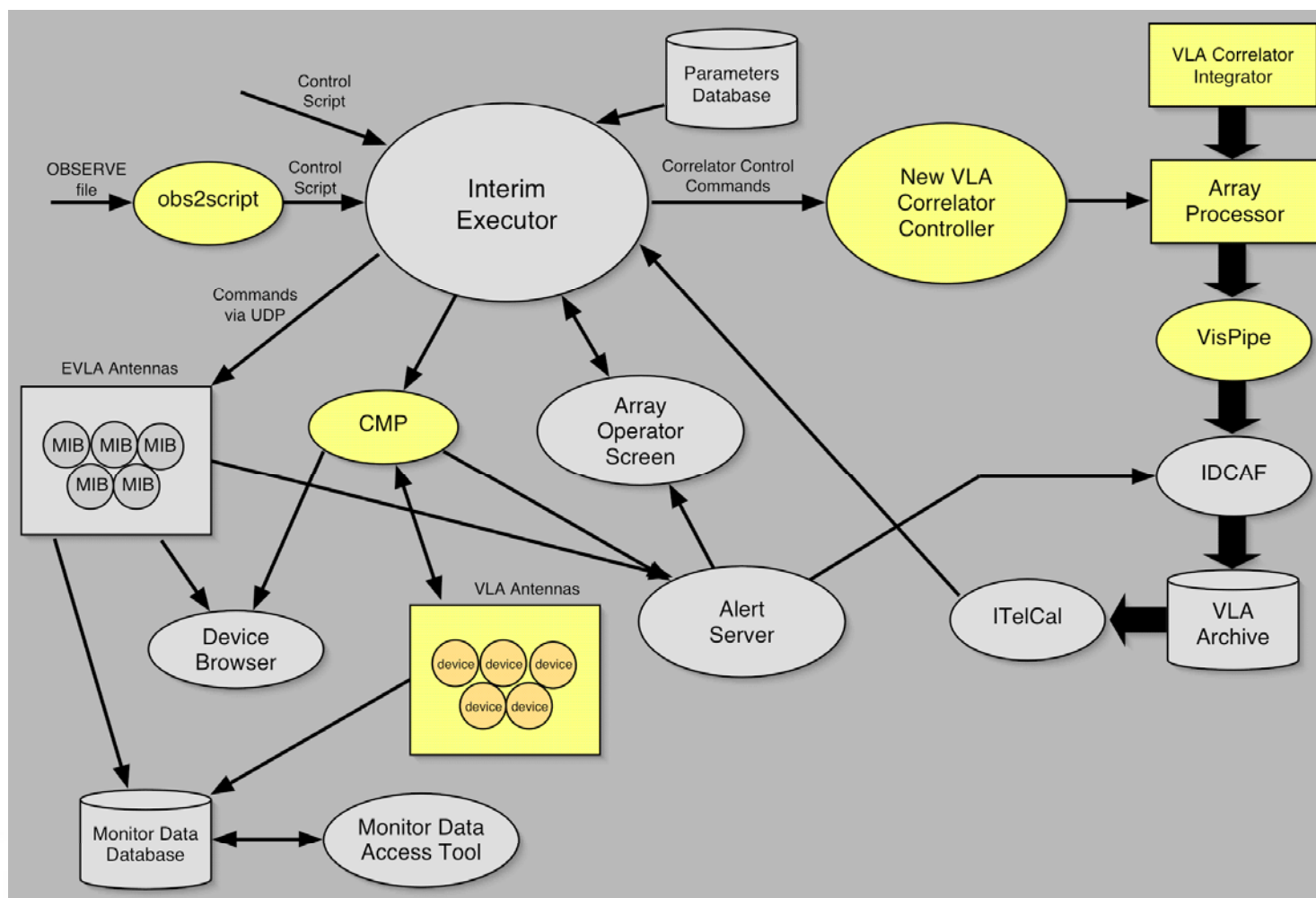
Atacama Large Millimeter/submillimeter Array
Expanded Very Large Array
Robert C. Byrd Green Bank Telescope
Very Long Baseline Array



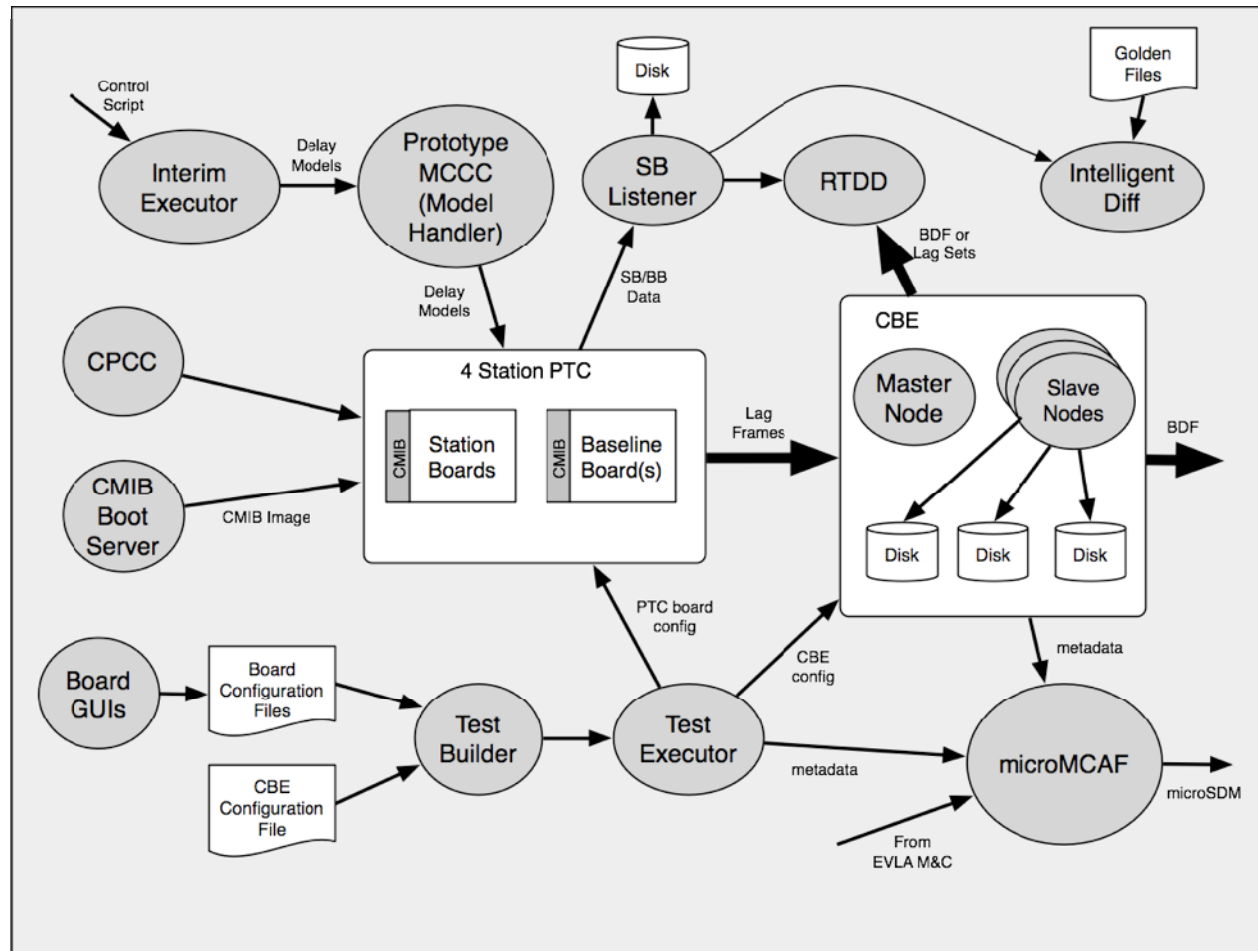
Major Subsystems

- Executor and parameters database
- Antenna M&C
- Correlator M&C
- Alerts and logging
- Monitor data storage and retrieval
- Metadata capture and format
- Telescope calibration
- Monitoring interfaces
- Archive loading controller
- SDM cataloger

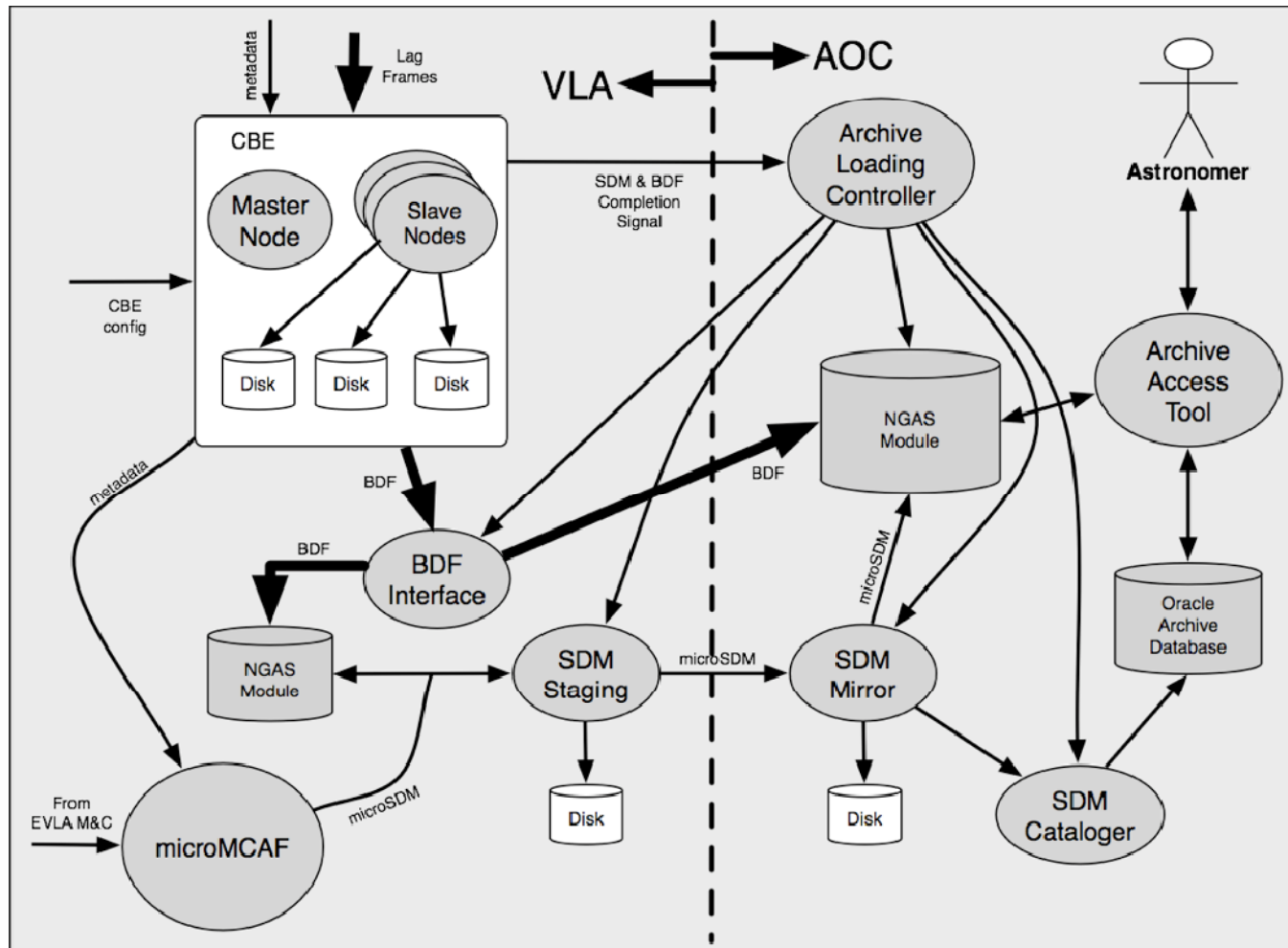
Transition System



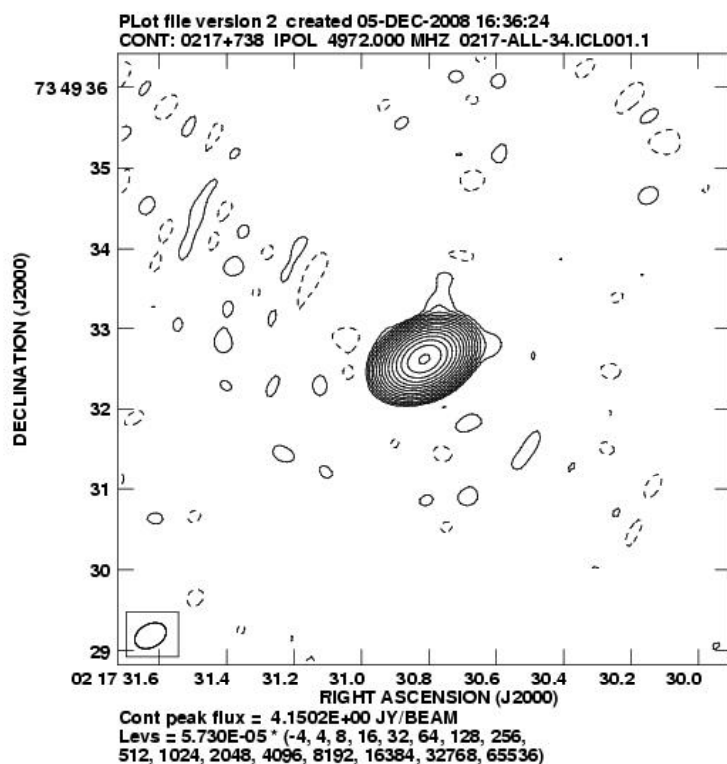
Prototype Correlator System



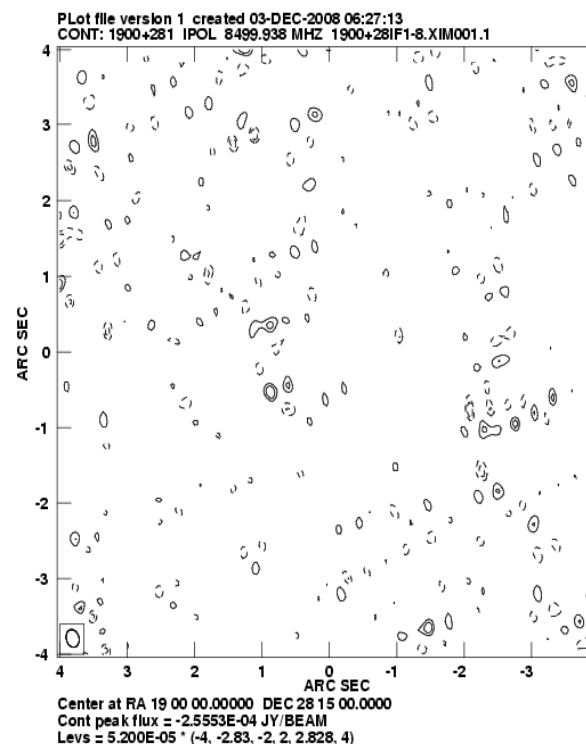
Archiving System



PTC Support Success

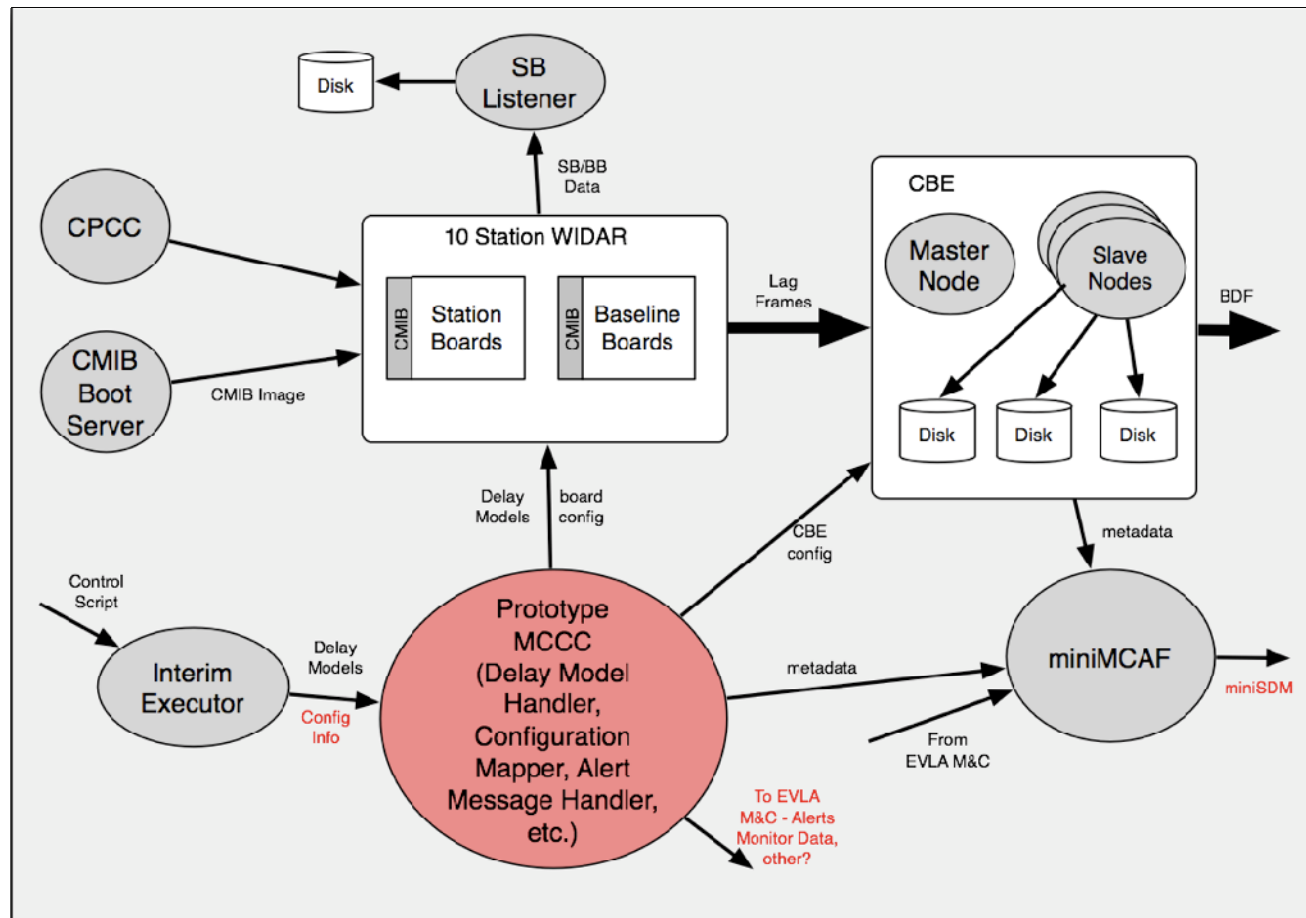


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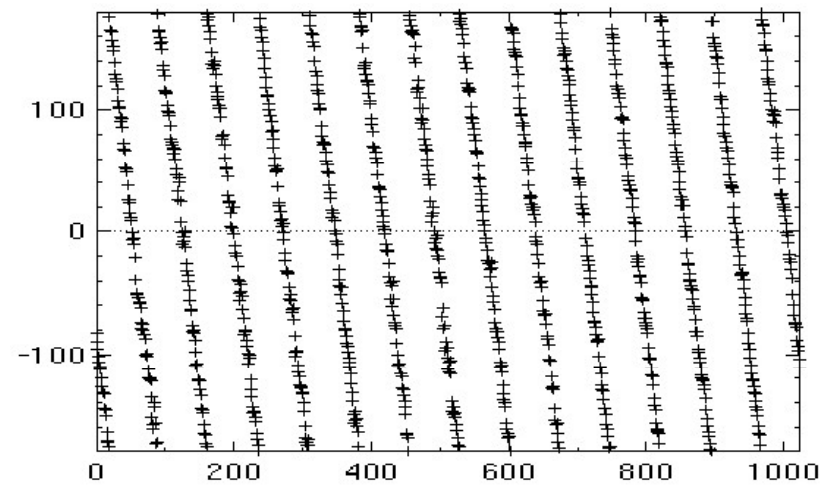
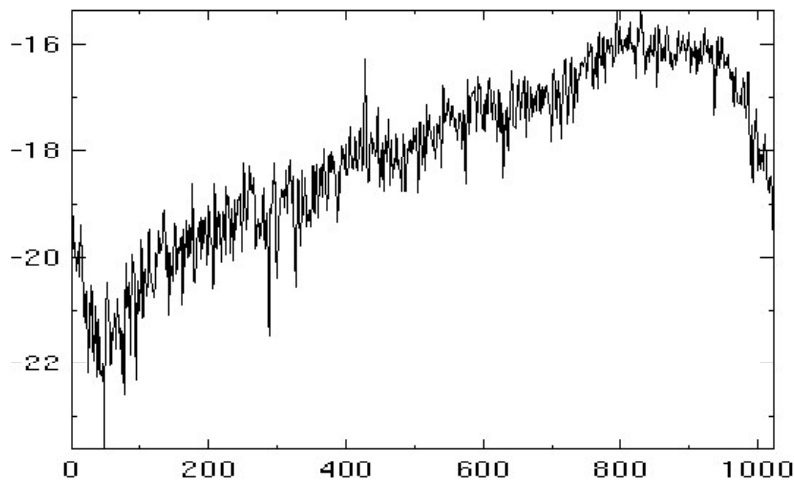


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field

WIDAR0 System



WIDAR0 Support Success



WIDAR0 first fringes

Transition System Milestones Already Supported

- Support for EVLA antenna hardware development
- Use of EVLA antennas in scientific observing
- Replacement of Modcomp-based VLA control system
- Support of prototype WIDAR testing (both PTC and WIDAR0)

Data Rates and Volumes

Driver	Target Date	% time	Max rate (Mby/s)	Mean rate (Mby/s)	Volume (Tby/yr)
Now		100	.06	.02	0.5
PTC	Aug08	small	8	n/a	n/a
WIDAR0	Mar09	small	20	0.1	4
256 MHz bandwidth; 1024 channels max; 1 sec min dump (OSRO)	Mar10	90	.23	0.08	2
2 GHz bandwidth; 8096 channels max; .1 sec min dump (RSRO)	Mar10	10	2	0.6	2
8 GHz bandwidth; 32384 channels max; .1 sec min dump; only ~10 antennas with 3-bit samplers (RSRO)	Jun10	10	16	5	16
8 GHz bandwidth; 1048576 channels max; .1 sec min dump (RSRO)	Oct10	10	75	20	60
2 GHz bandwidth; 8096 channels max; .1 sec min dump (OSRO)	Jun11	90	2	0.6	20
8 GHz bandwidth; 1048576 channels max; .1 sec min dump (End of construction)	Jan13	100	75	20	600

Early testing indicates we should have no trouble supporting these data rates

Operator Interface Demo

