

FRONT Project Plan

Project Plan Documents

1. FY10 Work Plan [[pdf](#)] [[odt](#)]

Milestones

Task	People Assigned	Target Completion Date
Surveillance scan capability at Marshall	Group	(completed)
Full PPI and RHI scan and GUI control capability	Dixon/VanAnadel/Loew	(complete)
Install and configure git repository at CSU and EOL	VanAnadel/George	2009-03-06 (complete)
Rewire S-Pol receiver and STALO boxes	Emmett	2009-02-27 (complete)
Convert HAWK time series process (RVP8TsTcpServer) to use common time series format (4.4)	Dixon	2009-03-13 (complete)
Convert CHILL time series process (AcquisitionServer) to use common time series format (4.4)	George	2010-06-01
Build buffer board for S-Pol timing signals (breakout box) (waiting on design info from Eric)	Emmett	2009-06-20 (complete)
build cables to attach Power PMAC to S-Pol pedestal servo amps, S/D board	Loew/Phinney	2010-03-30 (complete)
Replace servo amps in S-Pol	Phinney	2009 -12-01 (complete)
Need new fault board for S-Pol Servo Amps	Strong	(complete)
Antenna Pattern test @ Marshall : setup antenna on CP-2's concrete pad.	Strong/Phinney/Emett/Bobka	(complete)
Cleanup wiring in S-Pol transmitter container	Emmett/Holden	2009-04-03 (complete)
Install new power meters at S-Pol (4.5)	Holden	2009-04-03 (complete)
Convert moments calculation server to use common time series format (4.6)	George/VanAnadel	2009-04-10(complete)
Convert HAWK moments calculation software (iq2dsr) to use the common time series format (4.6)	Dixon	complete
Write SDB to Dsr real-time translator (to view CHILL moment data with CIDD)	Dixon	complete
Install NEXRAD/FAA transmitter at S-Pol (2)	Bobka/Emmett	2009-04-17(complete)
Rewrite CHILL system control software (DTctl) (4.2) [completion depends on Power PMAC]	Brunkow/George	2009-11-30
Initial Power PMAC development, configuration and testing for S-Pol	VanAnadel/Loew w help from Brunkhow	2009-12-04 (complete)
Integrate instrumentation server (calsrv) at S-Pol (4.5)with support for 2 dual-channel power meters	VanAnadel	2009-01-29
Build and test new digital waveform generator board (4.1) - not needed by S-Pol	George	2010-02-27
Integrate CHILL transmit control server (txctl) and digital waveform generator at S-Pol (4.1)	VanAnadel/Emmett/Farias	2009-12-15(complete)
S/D converter for S-Pol & Eldora Test Pedestal	Loew/Farias/Gales	2009-12-01 (complete)
Complete S-Pol setup at Marshall	Bobka/Gales/Emmett/Holden/Phinney/Rivas /Strong	2009-12-01(Complete)
Integrate Power PMAC at S-Pol (4.3)	Loew/Brunkow/Gales/VanAnadel	2009-12-20(complete)
Integrate CHILL system control software (syscon, aka DTctl) at S-Pol (4.2)	VanAnadel/Dixon/Loew	2009-12-15(complete)
Acquisition Server Software (control RVP8 and Moment generation)	Dixon/VanAnadel	2009-12-30 (complete)
Initial Antenna/System control GUI	VanAnadel	2010-04-15 (complete)
Install HAWK processing system	Dixon	2010-04-15 (complete)
Install CIDD	Dixon	2010-04-15 (complete)
Install CSU Engineering Display	Dixon/VanAnadel	2010-04-15
Update Engineering Display with hot keys and other needed capabilities (from old E. display)	Dixon/VanAnadel	2010-05-15 (complete)
ATE installed with software control of calibration equipment	Dixon/Morley/Emmett	2010-11-30

S-Pol unattended operation	group	2010-09-15 (complete)
PID/precip-rates/refractivity algorithms operational	Dixon/VanAndel/others	2010-12-10
Define CF-compliant netCDF common data format for integrated radar data (moments).	Dixon/Van Andel/CHILL staff	2009-12-15 (complete)
Real time vector winds from CHILL and S-Pol data	CSU Staff	2012-07-015 (After DYNAMO)
Gridding multi-radar data (S-Pol, CHILL, NEXRAD, Pawnee)	Dixon/VanAndel/CHILL staff	2012-07-015 (After DYNAMO)
Sun Scan, vertical pointing (calibration) capability	Dixon	2010-11-31
Automated cross-polar power technique for Zdr calibration	Dixon/Morley	2011-01-31

Other/Future Work

1. Generate detailed CHILL documentation: Joe, Jim, Dave
2. Antenna/System Control
 - a. Create Requirements document for S-Pol, based on current capabilities of the "Lutz" Antenna/system control software
 - b. GUI : Joe
 - i. Design
 - ii. Implement
 - iii. Integration test
 - c. web based system control: ???
3. Time Series
 - a. build time series utilities (possibly based on John Hubbert's Fortran program)
4. FORAY2 to read/write radar data formats : Dennis
 - a. design
 - b. document
 - c. implement
5. Archiving
 - a. modify archiver to write CF-compliant netCDF(4)
 - b. port S-Pol tape archiving scripts/programs to backup disk files to tape
 - c. GUI for operator to control archiving
6. Calibration
 - a. finish documentation for Frank's Labview code
 - b. automated calibration procedure for S-Pol
 - i. implementation, including utilities to compute calibration values from ATE measurements
 - ii. documentation
 - c. implement automated calibration on CHILL
7. Remote control and monitoring
 - a. environmental - temperature, air flow, voltages
 - b. remote console, power control for key computers
 - c. remote monitoring of computers, product generation (NAGIOS?)
 - d. remote monitoring of new transmitter.
 - e. Technology to investigate:
 - i. Measurement computing PCI-DIO48H-RT with Comedi driver
 - ii. Sixnet ET-GT-485-1 Ethernet to RS485
 - iii. Advantech ADAM series
 - iv. Websensor EM01B (Nagios compatible)
 - v. ENVIROMUX Server Environment Monitoring System (Nagios compatible) <http://www.networktechinc.com/>
8. Scientists Display
 - a. write requirements
 - b. select JADE or IDV or another solution
 - c. implement missing features
 - d. integrate into IVRF
9. Advanced radar algorithms
 - a. refractivity - rewrite, using FORAY2
 - b. automate quality control
10. Computer system management
 - a. cfgengine or equivalent to update passwords, hosts files
 - b. backup, recover system
 - c. recovery plan, including spares for field deployment