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/VanAndel/Loew	(complete)
Install and configure git repository at CSU and EOL	VanAndel/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/VanAndel	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	VanAndel/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	VanAndel	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)	VanAndel/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/VanAndel	2009-12-20(complete)
Integrate CHILL system control software (syscon, aka DTctl) at S-Pol (4.2)	VanAndel/Dixon/Loew	2009-12-15(complete)
Acquisition Server Software (control RVP8 and Moment generation)	Dixon/VanAndel	2009-12-30 (complete)
Initial Antenna/System control GUI	VanAndel	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/VanAndel	2010-04-15
Update Engineering Display with hot keys and other needed capabilities (from old E. display)	Dixon/VanAndel	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 IWRF
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