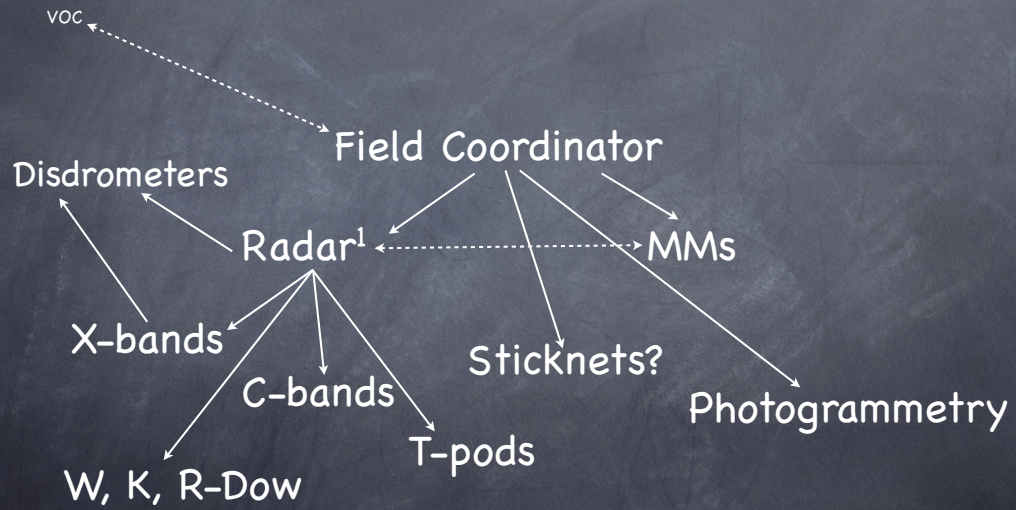


Communication and
Control:
V2 philosophy
+
Hardware and software
specifications
for V2 vehicles

Vortex2 Ops Center

- VOC: Purpose
 - provide forecast support for morning decisions
 - interface to SPC and NWS
 - Model output dissemination
 - Safety net for armada
 - Logistical coordination
- 95% of all decision/forecast support needs to go through FC

Command Control?



!Josh has two 17 m masts!

Communication Modes

- Tracking data
- Text messaging
- Chat rooms
 - low bandwidth
 - often works when voice wont
- SASSI
- voice via cell phone needs to be minimized
- VHF radio for comms between teams

Communication Fundamentals

- ④ All vehicles need to be tracked **automatically!**
- ④ Special software customized for V2 ops:
 - ④ Situational Awareness for Severe Storm Intercept: SASSI baby (its not SAD....)
- ④ VHF radio is essential
 - ④ individual channels for radars, surface, FC
- ④ Other: satellite phone, multiple cell phone vendors

Communications Infrastructure

Cellular modems

- all vehicles should have this in some form
- low-med bandwidth
- geographically dependent
- local cell traffic jams likely in crowded locations

Freewave: mobile digital network

- used for MMs, 1-2 radars (specialized)
- high bandwidth
- limited range (< 15 km in typical terrain)

Cell Phone Coverage

Sprint Coverage Tool

Sprint S Plains

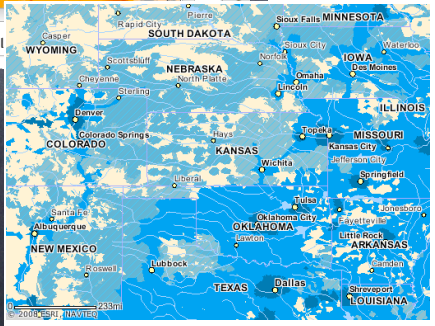
Sprint C Plains

Map Detail Options

City names Secondary highways

Coverage updated on: 8/5/08

ATT



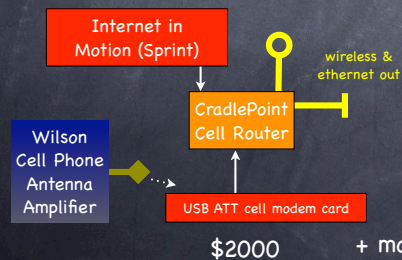
Communications Infrastructure

Cellular modems

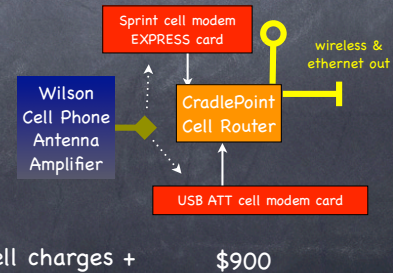
- recommending two carriers: ATT & Sprint (or ATT & Verizon)
- Two types of systems
- Both use CradlePoint 1000 mobile broadband router

All vehicles should seriously consider one config

High-End



Medium



Internet in Motion



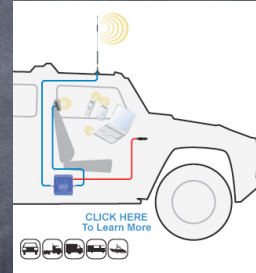
CradlePoint MBR 1000



Wilson cell phone amps



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Software Infrastructure

👁️ SASSI

- 👁️ built for windows XP
- 👁️ provides realtime access to armada vehicle positions, MM data
- 👁️ will access data from server at NSSL and from FC via Freewave

👁️ Tracking

- 👁️ GPS unit: Garmin18
 - 👁️ Software: Windows XP
 - 👁️ Comm: cellular internet or Freewave (MDN) will automatically be used
- 👁️ **MUST HAVE** Windows XP system to be tracked and to use SASSI