SAND2006-5061P

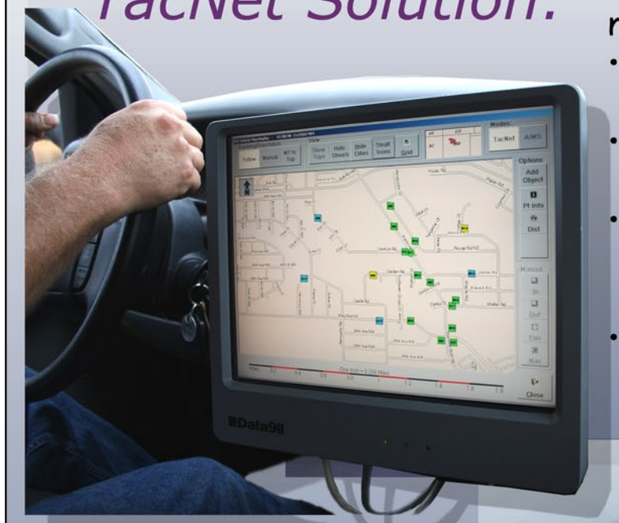
TacNet: Tactical Network

Sandia National Laboratories

Problem:

The Blue Force needs to track and view its own vehicles and assets to maintain situational awareness on the road and during maneuvers. Current techniques based on voice leave leaders and forces blind to the overall picture.

TacNet Solution:



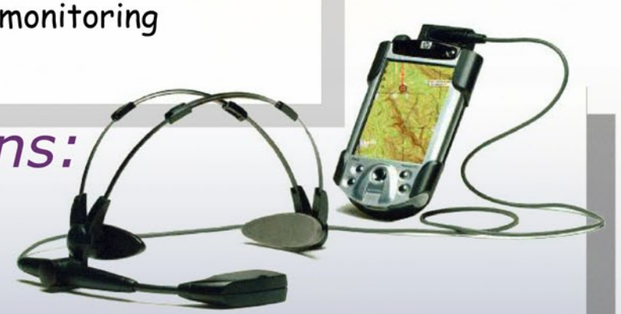
Provide a mobile ad-hoc network that combines

- An interface between wireless and wired networks
- A tracking device that can be attached to any asset
- Street maps and topo maps showing relative positions of vehicles and assets
- Extension of network using repeaters and nodes

Planning Ahead:

- Voice over IP • Video over IP • Communications by proxy
- Binocular positioning for distance, range, and azimuth
- Remote targeting • Remote biometric monitoring
- Virtual perimeter security

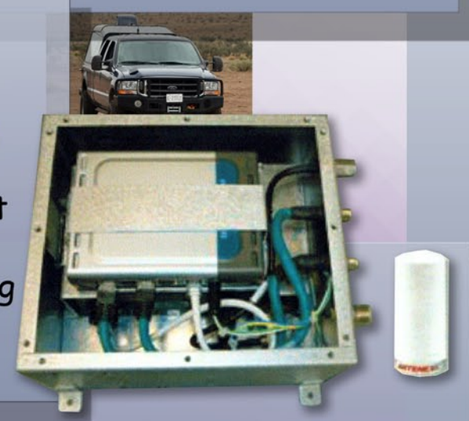
Applications:



- Tracking police vehicles
- Vehicle dispatch
- Enhanced CAS oversight of security systems
- Tracking contractor personnel and vehicles
- Shared electronic white boards
- Protective Force situational awareness
- Friend or foe identification
- Real-time training analysis

Features:

- Vehicle and asset positions displayed in vehicles and on portable trackers
- Interconnectivity in mobile environment
- Connectivity to fixed infrastructure
- Self forming, self-healing, multi-hopping networks
- Access control



Ongoing Work:

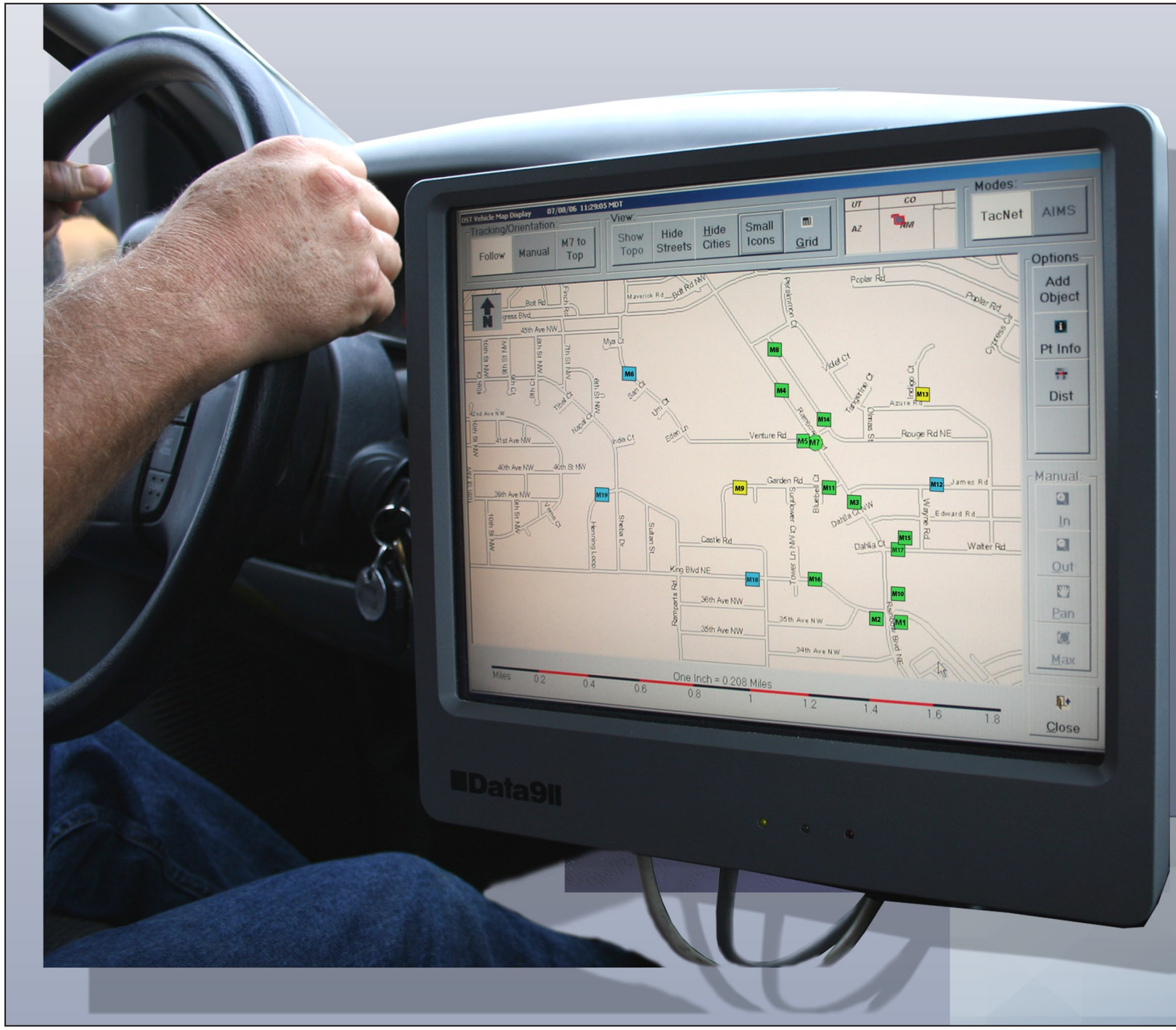
- Coordinating UAVs, repeaters, and nodes to extend line of sight
- Enhanced in-vehicle mapping
- Improving portable tracker map displays
- Automated trip parameter control

Over the Road Solutions:

- Field-tested and proven mobile network
- TacNet Vehicle Module
- Antenna

NNSA National Nuclear Security Administration

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



- Ar
wi
- A
be
- St
sh
of
- Ex
re