DTN/SN: Delay Tolerant Networks/Sensor Networks

Financed by VINNOVA

Period: 1/7/03 - 30/6/06

Budget: aprox. 500,000 €

Team: Juan Alonso, Adam Dunkels, Thiemo Voigt, ...

Industrial partners:
- Aerotech Telub
- Bombardier
- Ericsson Microwave
- Raditex
- Saab Tech
- Umeå Marine Sciences Centre (UMF)
- Wireless Device
DTN/SN: project description

Objective: to design and deploy effective sensor networks of practical interest, and connect them to the Internet

**THEORY**
- DTN architecture
- Small implementations
- Theoretical limits
- Design of protocols that approach these limits

**PRACTICE (deployments)**
- WHAT?
- Spec
- HOW?
- Practical solutions
- HOW?
UMF - Umeå Marine Research Centre
Raditex – wireless sensor network to observe and control temperature in buildings

SaabTech – wireless sensor network for building security

— dynamic phenomenon

— dynamic network
Great Duck Island - summer 2002

Mainwaring, Polastre, Szewczyk, Culler and Anderson

Discussing different, more complex routing algorithms, the authors write:

"Although these methods provide factors of 2 to 3 times longer network operation, our application requires a factor of 100 times longer network operation..."

what is the largest factor we can expect?
Answer:

\[ a \text{ factor } \leq (2s_1 - 1) \]

where \( s_1 \) is the number of nodes one hop away from a base node

\[ s_1 = 4, \text{ factor } \leq 7 \]

\[ s_1 = 5, \text{ factor } \leq 9 \]
web page of the project:

http://www.sics.se/cna/dtnsn