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, ...

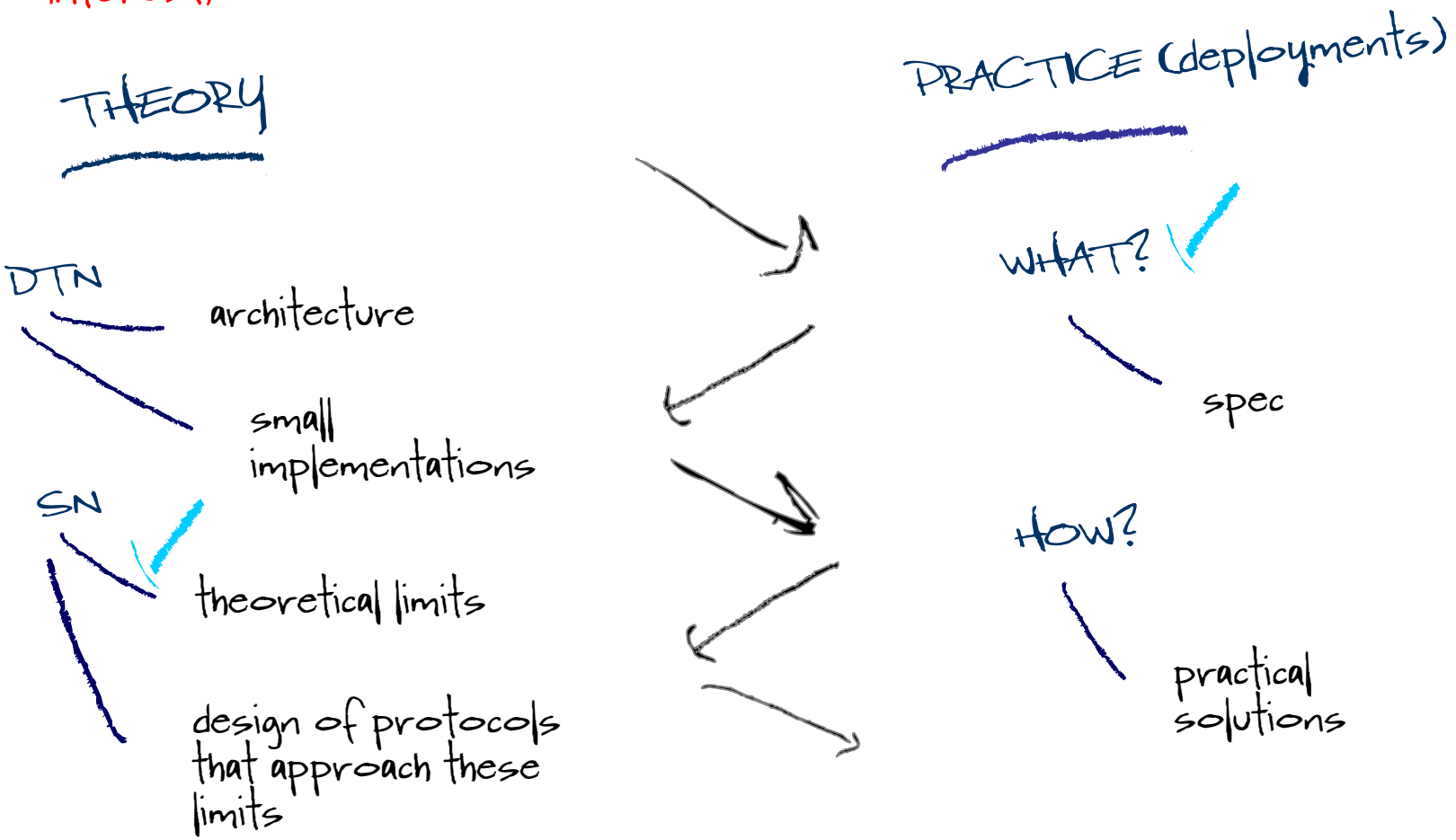
industrial partners

- Aerotech Telub
- Bombardier
- Ericsson MicroWave
- Raditex
- Saab Tech
- Umeå Marine Sciences Centre (UMF)
- Wireless Device

SICS

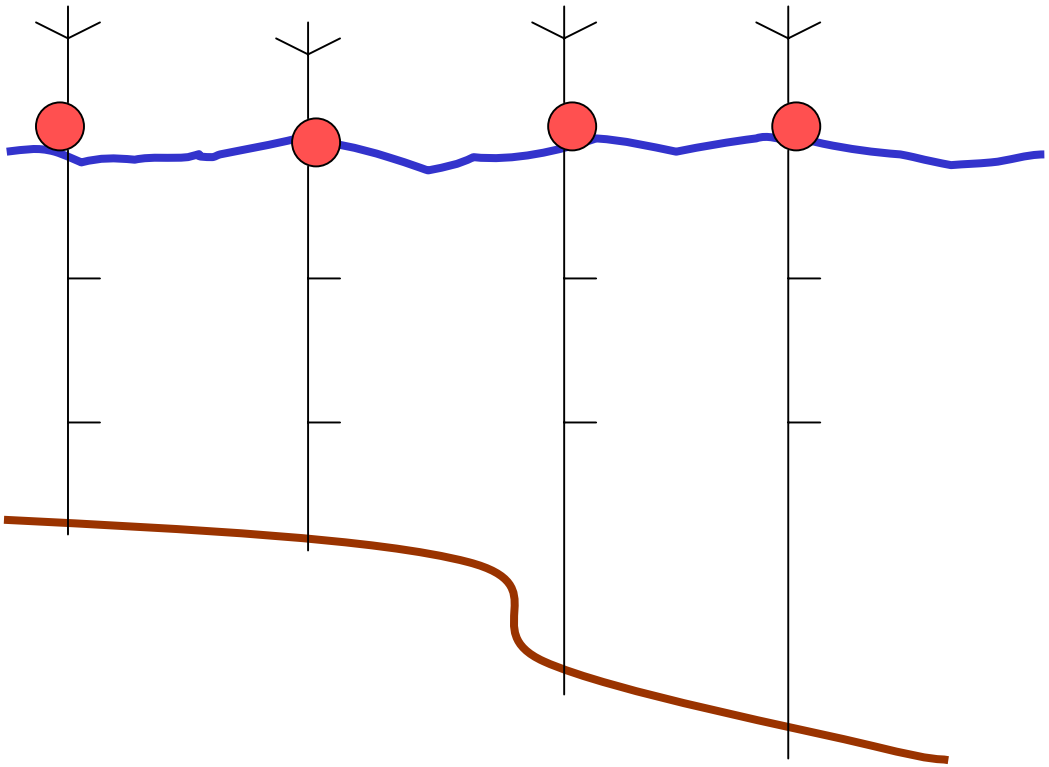
DTN/SN: project description

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



SICS

UMF – Umeå Marine Research Centre



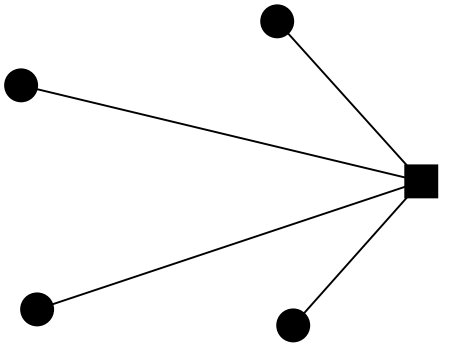
Raditex – wireless sensor network to observe and control temperature in buildings

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..."

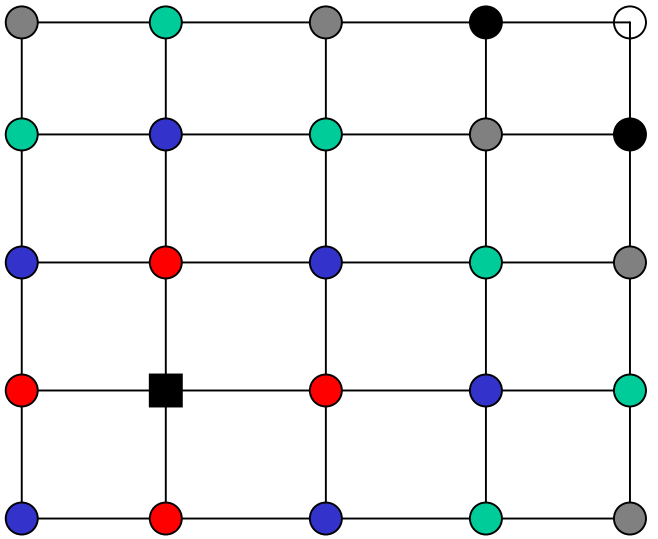
what is the largest factor we can expect?

SICS

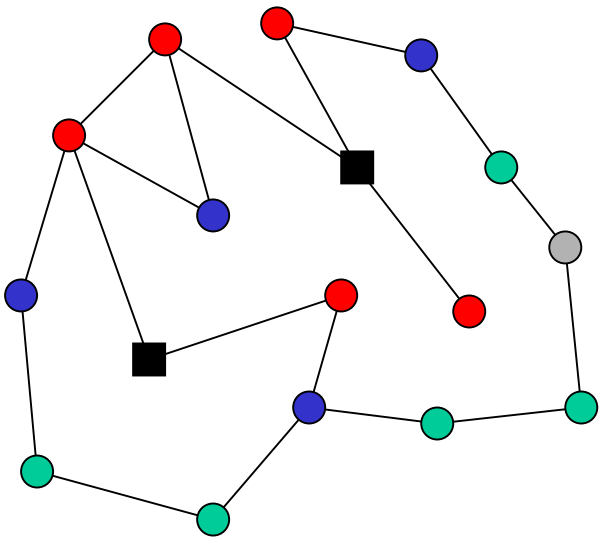
Answer:

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

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



$s_1 = 4$, factor ≤ 7



$s_1 = 5$, factor ≤ 9

SICS

Web page of the project:

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