SocialMesh

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Can networks of meshed smartphones ensure public access to twitter during an attack?
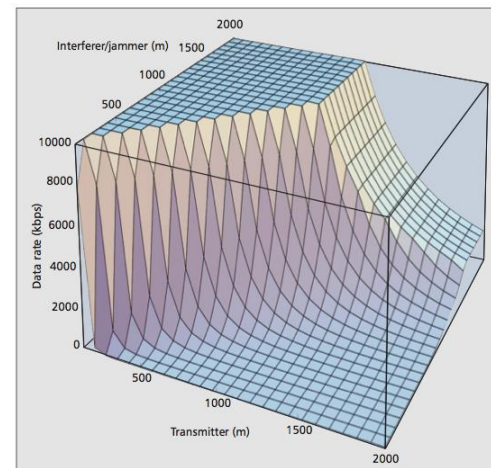
We all have a dream

- "Everyone in the world can freely speak and communicate with anyone they want to."

- Can it be achieved in our lifetime?

SocialMesh

"Can Networks of Meshed Smartphones Ensure Public Access to Twitter During an Attack?"
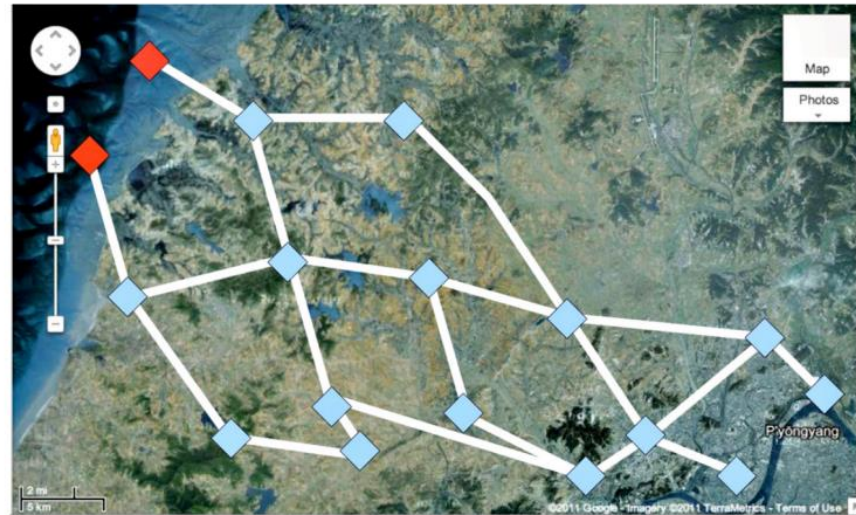

IEEE Communications Magazine, May 2012

Our Original Title:

"How to Make Twitter Available in North Korea"

FAS Public Interest
Report, Winter 2011

Android

- $200 (or less)

- 250-750 MHz

- 100 milliwatts

Related Technologies

- DARPA wireless mesh projects (e.g. BBN)

- Commotion Wireless (State Department)

- Tor

- Unlicensed mesh: Tropos, Open Garden

Questions to ask:

1. Is it resistant to all countermeasures that could be thrown at them by attackers?

2. How well does it perform for end-users — under a variety of non-ideal conditions?

3. Is it scalable — how much does it cost to manufacture and distribute?

Countermeasures

1. PHYSICAL DISRUPTION OF SOCIALMESH NODES

2. IMPERSONATION OF SOCIALMESH NODES

3. JAMMING OF SOCIALMESH NODES

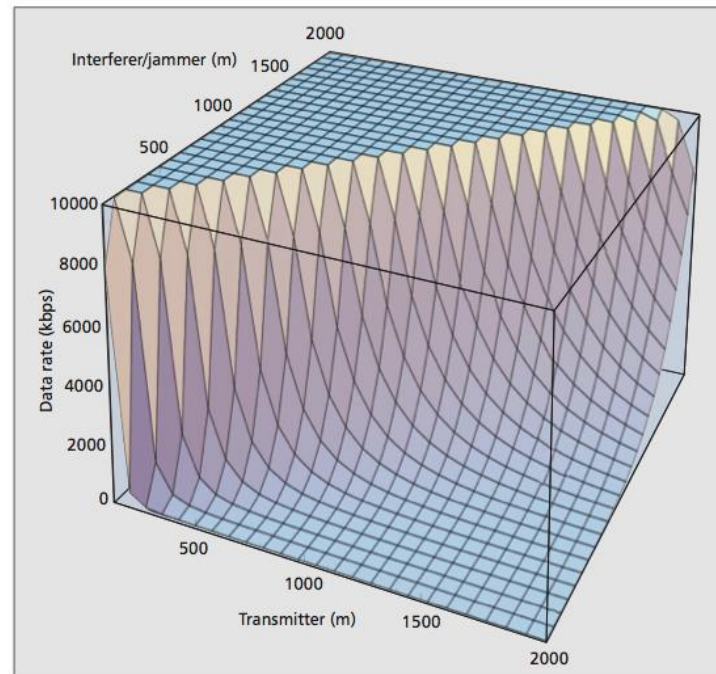4. LOCALIZATION AND TRACKING OF END-USERS

Path Loss Exponent = 2.5

Figure 1. *Path loss exponent = 2.5 (0–10 Mb/s, 0–2 km).*

Path Loss Exponent = 2.5 @ 10% duty cycle
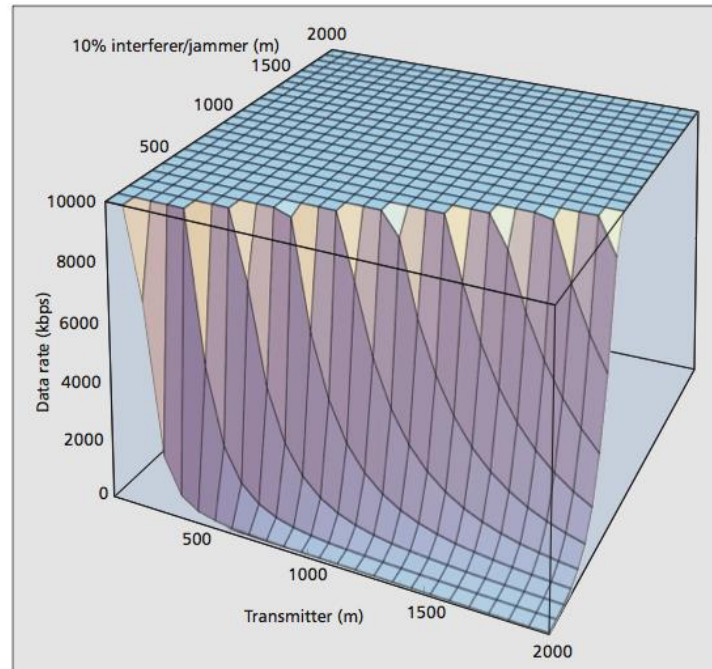

Figure 5. *Path loss exponent = 2.5 (0–10 Mb/s, 0–2 km) @ 10% duty cycle.*
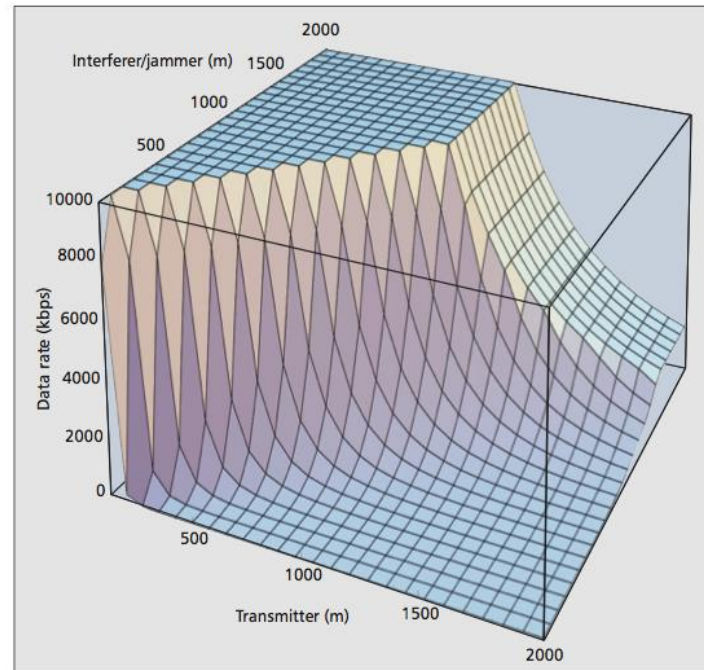
Path Loss Exponent = 3.0

Figure 2. *Path loss exponent = 3.0 (0–10 Mb/s, 0–2 km).*
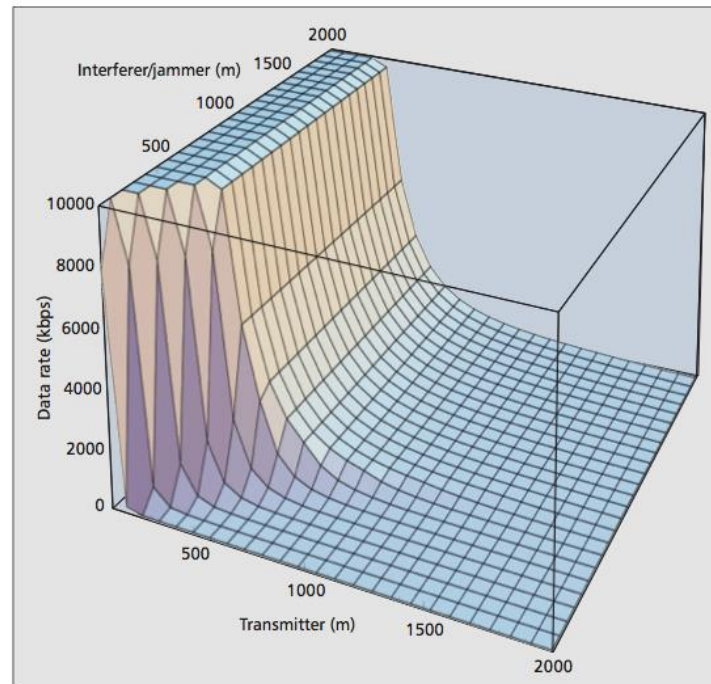
Path Loss Exponent = 3.5

Figure 3. *Path loss exponent = 3.5 (0–10 Mb/s, 0–2 km).*

Path Loss Exponent = 3.5 (zoomed)
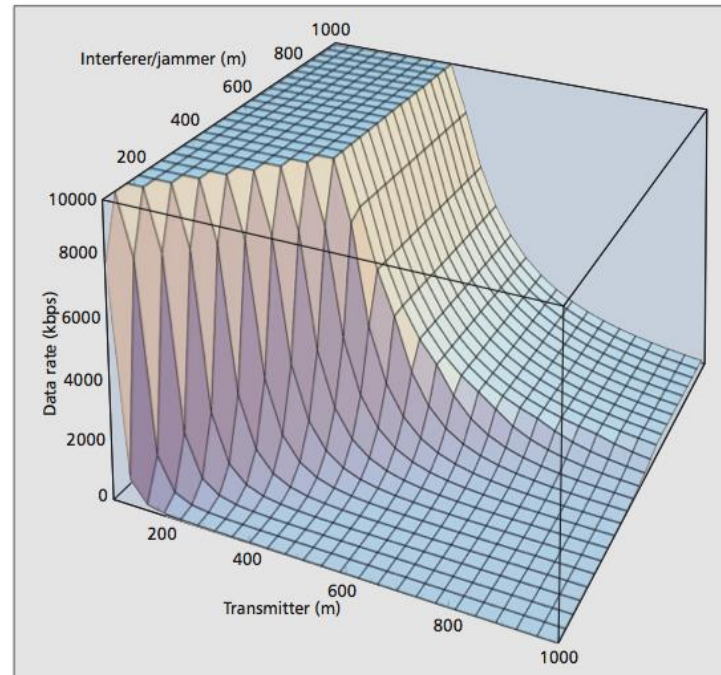

Figure 4. *Path loss exponent = 3.5 (0–10 Mb/s, 0–1 km).*

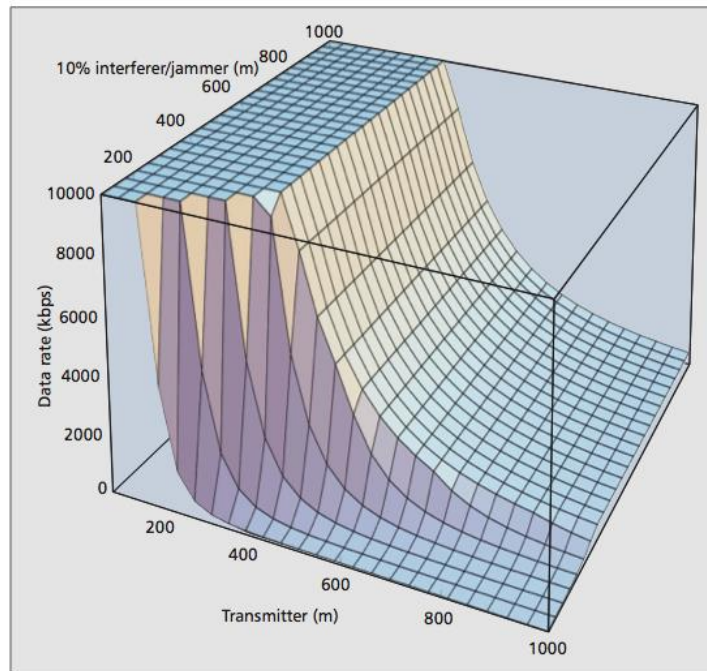# Path Loss Exponent = 3.5 @ 10% duty cycle

Figure 6. *Path loss exponent = 3.5 (0–10 Mb/s, 0–1 km) @ 10% duty cycle.*

Whether you believe you can or you can't you're right. – Henry Ford

- Is SocialMesh cost-effective? Yes

- Is SocialMesh scalable? Yes

- Is SocialMesh user-friendly? Yes

- Can we eliminate state-sponsored censorship using SocialMesh? Yes

- http://socialmesh.org