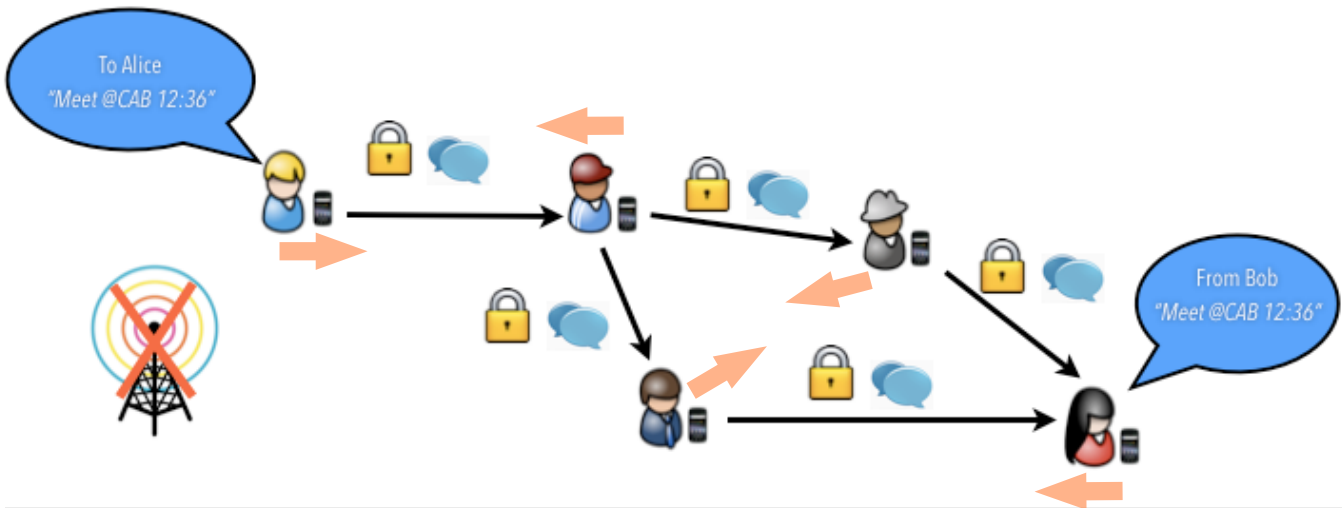


Uepaa! is a ETH spinoff and a multi-award winning startup that is pioneering the next level of wireless peer-to-peer (P2P) communications.

UepaaNet -- Uepaa's core technology transferred from ETH -- turns your phone into an active P2P node able to carry, store and forward content within a opportunistic network of smartphones. It relies solely on P2P communications without the need of any infrastructure or contemporaneous end-to-end wireless path.

Our vision is to become THE NEXT P2P STANDARD!

Security and Privacy in Opportunistic Networks



Background

With opportunistic networking, content is stored locally on the phone, carried around as people move and forwarded *opportunistically* as they are in proximity with other phones using UepaaNet. Such networks require no centralized or fixed infrastructure such as WiFi APs or cellular networks and can be used in scenarios in which no infrastructure exists (e.g. remote areas in the developing world, aftermaths of a disaster) or in which the existing infrastructure does not meet the user's security and privacy requirements (e.g. urban areas).

Thesis Goals

The goal of this thesis is to extend Uepaa's core technology with end-to-end encryption and privacy schemes allowing to secure P2P communications from attackers in a decentralized network. It comprises of:

- Review of state-of-the-art solutions (asymmetric crypto, key management, mix-zones, ...)
- Design of the security/privacy architecture and attacker model
- Prototype implementation
- Lab tests and trials with beta testers

Interested and want to know more?

This thesis can either be done externally at Uepaa! Swiss Alpine Technology (Kreis 8) or at the Communication Systems Group Zurich (D-ITET/TIK). If you are interested in working with the Uepaa team in a challenging R&D environment or want to know more about this thesis, please send us an email at info@uepaa.ch. We are looking forward to hearing from you.