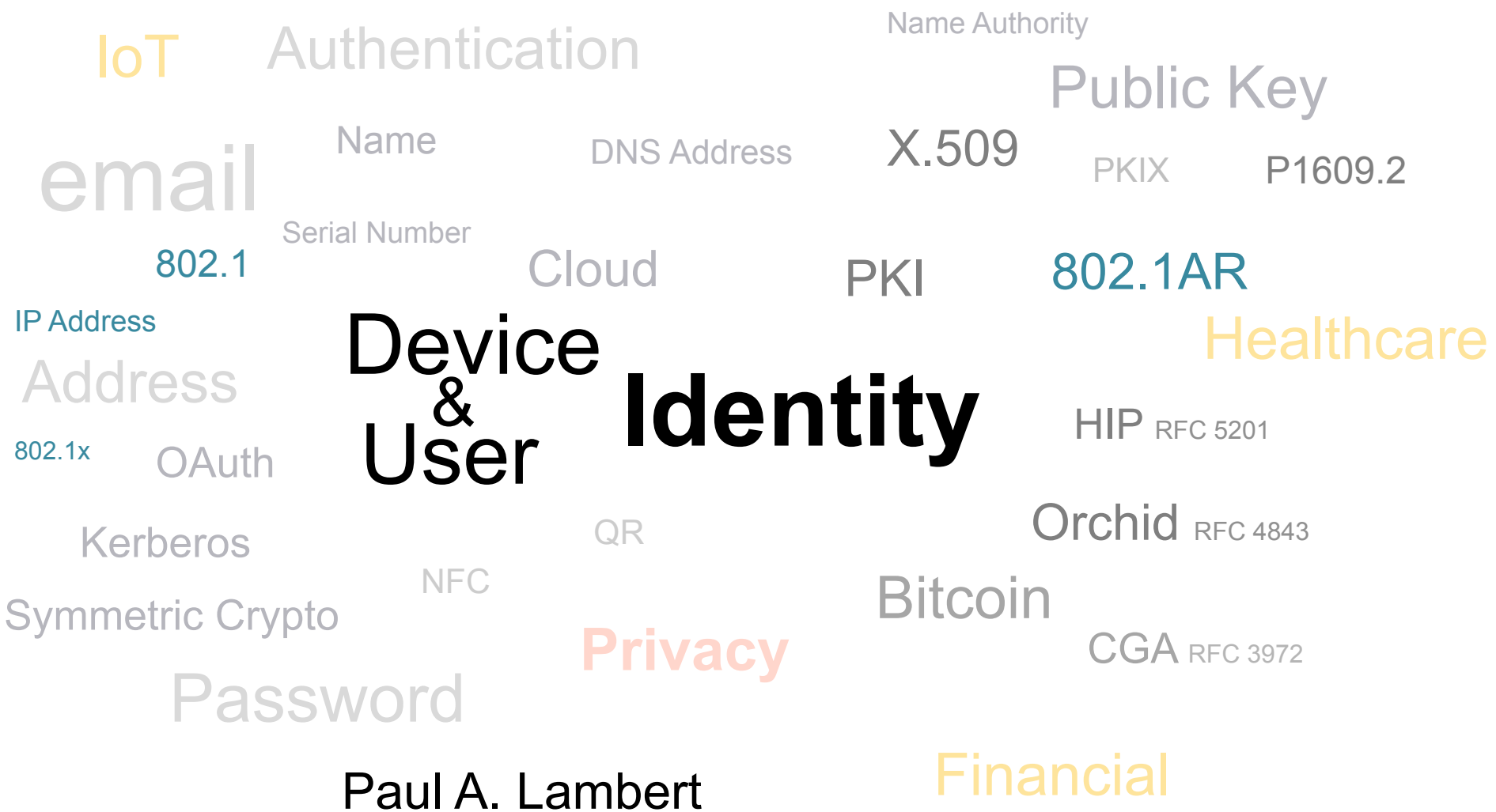
Emerging Applications



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MARVELL

Identity for Devices and User Personas

An “identity” must:

- Support many types of devices with and without user interfaces
- Human users should be able to select and use one of many Personas on a mobile device
- Have provable ownership (authentication)
  - Support direct peer-to-peer identity verification
- Not be exposed unnecessarily (privacy)
  - Be independent of addressing (limit address correlation)
- Support pair-wise confidentiality (encryption/key setup)
- Support a variety of introduction mechanisms (setup and discovery)
- Eliminate the need for a password for every device, service, network
- Support the creation of consistent human interfaces that improve system usability

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Widget 51

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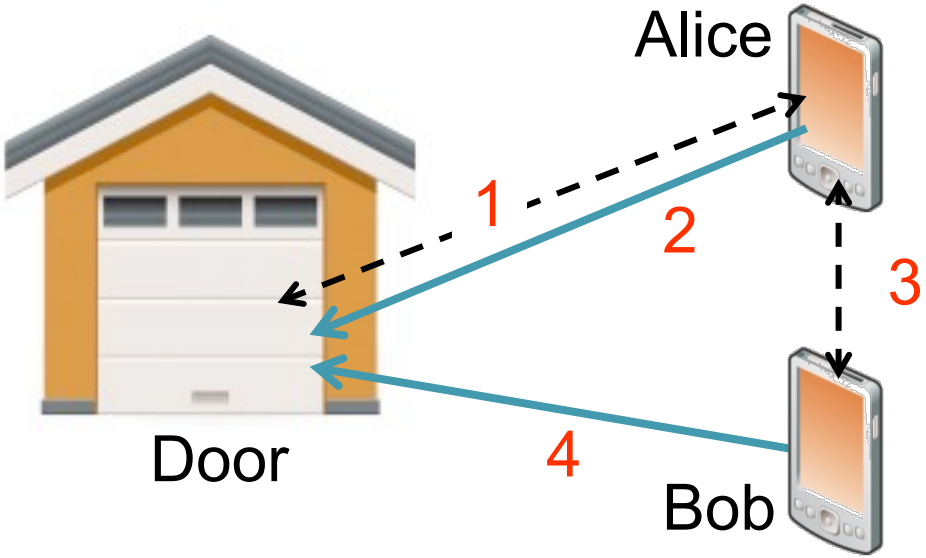
A Simple Delegation Use Case



1. Alice setups garage door to be opened by Wi-Fi from her mobile device
2. Alice uses garage door (open/close)
3. Alice meets Bob and gives him permission to open/close door for 1 day
4. Bob can open door

- By what verifiable “identity” does Alice use for the Door and Bob?
- Does Alice need to register with a cloud service to open her garage door?
- Can Bob give away his permission to the Door without Alice’s approval?
- If the garage door opener is replaced and sold at a yard sale, how does the new owner ensure that the prior owner no longer can open the door?
- How does Alice ensure that she has met and given the privileges to the right Bob?

What emerges from better “identity”

- Improved user experience in installing and managing devices
- Improved security and manageability
  - enterprise applications, process control
- Improved privacy when addresses are not bound to id
  - Automotive and health care markets
- Scalability
  - Delegation to groups, avoid cloud diffusion, device self introduction
  - IoT