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Broadcast Encryption with Multiple Trust Centers and Dynamic Coalitions

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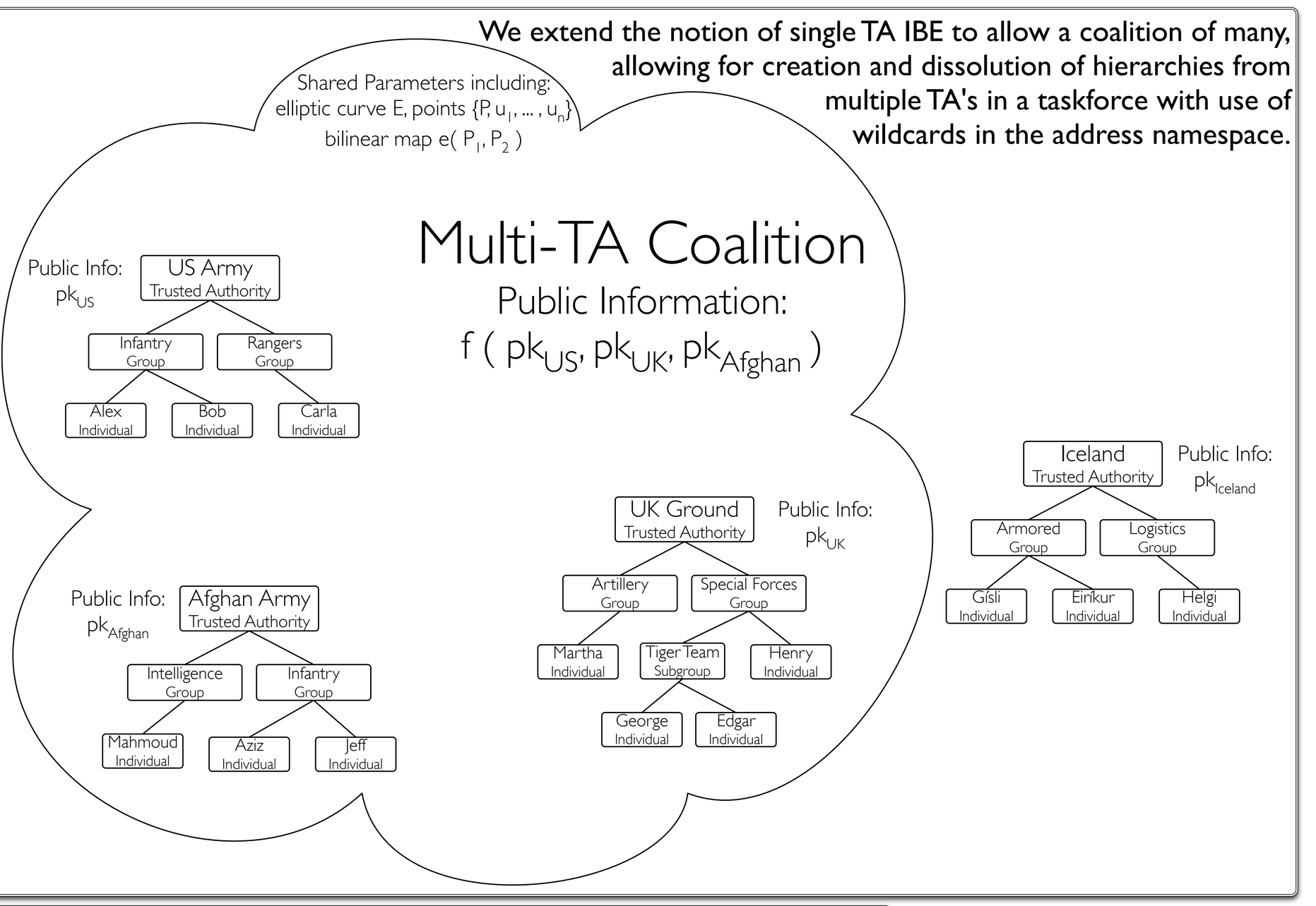
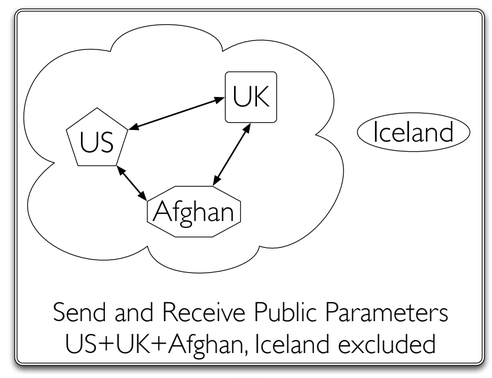
We extend the notion of single TA IBE to allow a coalition of many, allowing for creation and dissolution of hierarchies from multiple TA's in a taskforce with use of wildcards in the address namespace.



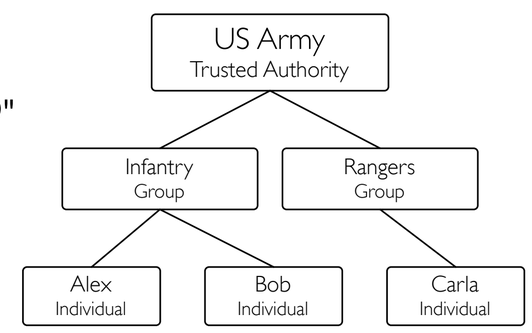


Features

- Multi-TA Identity-Based Encryption (IBE)
- No public key infrastructure (PKI)!
- Broadcast messages using wildcards
- Dynamic coalition membership
- Expelled members gain no future advantage against new coalitions

Namespace & Hierarchies

- Name reflects structure
- Old way: "Bob #123456789"
- New: (US, Infantry, Bob)
- Bob's Unit: (US, Infantry, *)



Wildcards

- One-to-many Communication
- (US, Infantry, Bob)
- (US, Infantry, *)
- (US, *, *)