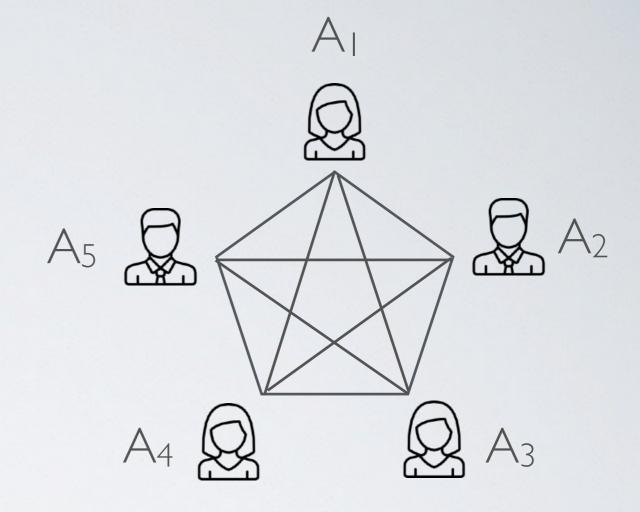
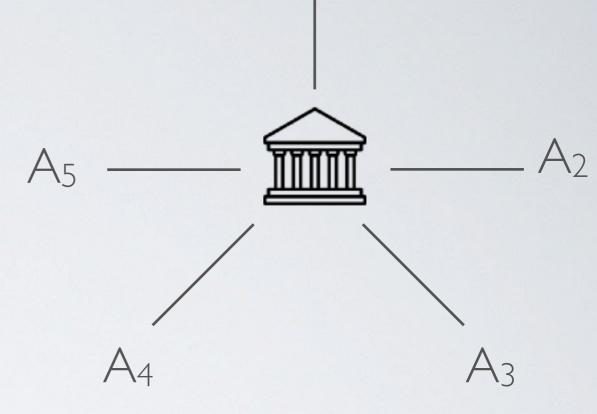
## Naive Key Management



 $A_1, A_2 \dots A_5$  want to talk

- $\rightarrow$  Each pair needs a key: n(n-1)/2 keys
- Keys must be exchanged physically using a secure channel

## (Better) centralized solution



A<sub>1</sub>, A<sub>2</sub> ... A<sub>5</sub> can talk to the KDC (Key Distribution Center)

- → When A<sub>i</sub> and A<sub>j</sub> want to talk, the KDC can generate a new key and distribute it to them
- We still have n keys to distribute somehow using a secure channel
- The KDC must be trusted
- The KDC is a single point of failure
- → The is how Kerberos works