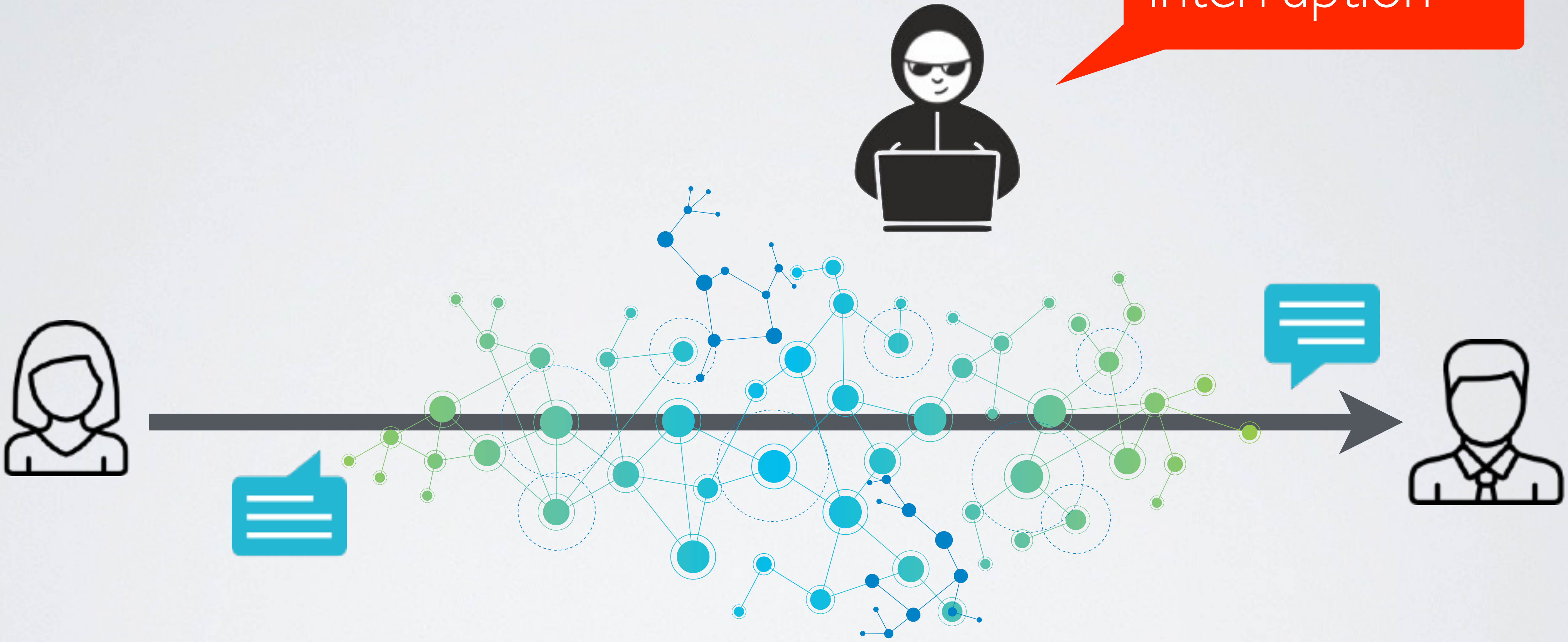
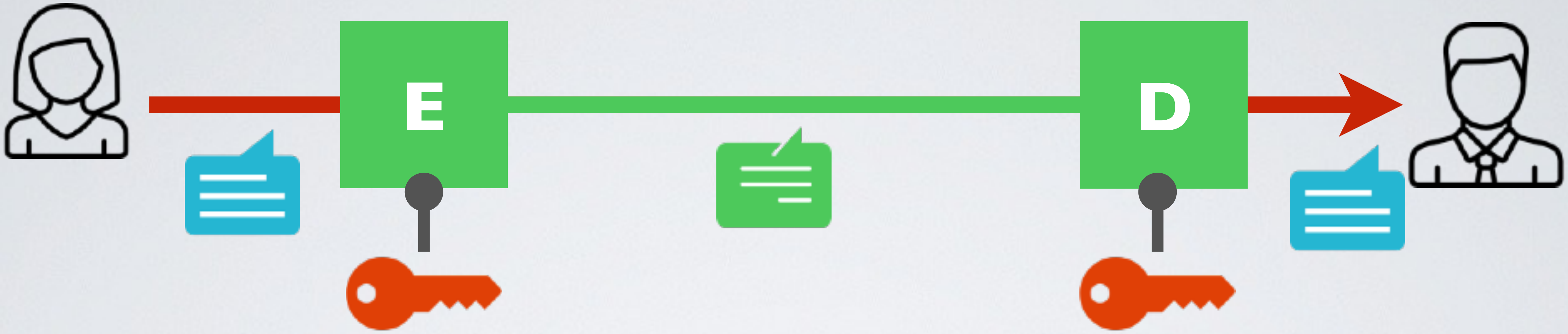
Security goals vs attacker's model



Interception
Modification
Fabrication
Interruption

Let us consider **confidentiality, integrity ~~and availability~~**

Symmetric Key Encryption



➡ The same key **k** is used for encryption **E** and decryption **D**

1. $D_k(E_k(m))=m$ for every k, E_k is an injection with inverse D_k

2. $E_k(m)$ is easy to compute (either polynomial or linear)

3. $D_k(c)$ is easy to compute (either polynomial or linear)

4. $c = E_k(m)$ finding m is hard without k (exponential)