

[broken] Key Derivation Using Long-Term Keys





Na



$$E_k(m)$$



$$E_k(m')$$



N_B







PKB

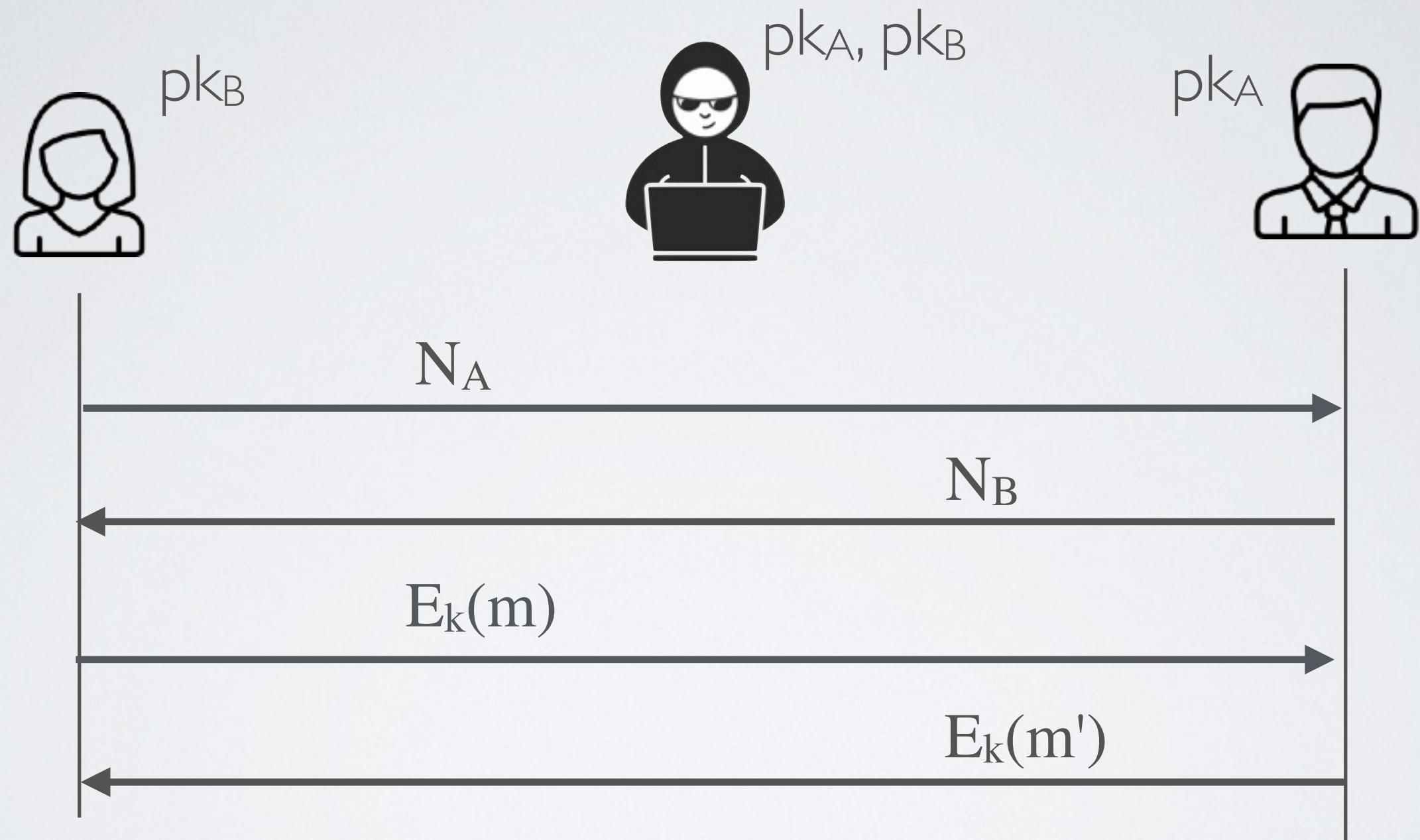
PKA

$P|K_A,$

$P|K_B$

$$k = \text{ECDH}(sk_A, pk_B, N_A, N_B) = \text{ECDH}(sk_B, pk_A, N_A, N_B)$$

[broken] Key Derivation using Long-Term Keys



$$k = \text{ECDH}(\text{sk}_A, \text{pk}_B, N_A, N_B) = \text{ECDH}(\text{sk}_B, \text{pk}_A, N_A, N_B)$$

[broken] Key Derivation using Short-Term Keys



$$k = \text{ECDH}(\text{sk}_A, \text{pk}_B) = \text{ECDH}(\text{sk}_B, \text{pk}_A)$$