

4 密码学

4.1 加密技术 2种：概念 + 优劣

4.2 密码长度作用

4.3 混合模式安全方案

4.4 哈希算法

4.4.1 完整性

4.4.2 加密 vs 哈希，逆向哈希

4.4.3 哈希在数字签名作用

4.1 ① symmetric : one

A symmetric : two encryption decryption

S ~ : ~~efficiency~~ ^{fast ✓ secure ✓} short ✓ exchange ✓

A ~ : exchange ✓ long x many key x
slow x less secure x

4.2 long & crack time &

4.3 ① Adv. Disadv.

② hybrid — generate session key
 \ share PK.

throughput ✓ encrypt by session key
key management ✓

4.4.1 one way compression function
no way to get plain text

4.4.2 encryption $\rightarrow \Leftarrow$
hash $\rightarrow \nleftarrow$

4.4.3 ① Size \downarrow
② Detect change