

### Homework 13

#### Review 22.4: DKIM - DomainKeys

Identified Mail is a type of cryptographic signing emails. This allows emails to be claimed in a mailstream. This is used to verify senders of mail similar to the public key system.

Review 22.5: SSL can be comprised by the Handshake Protocol, Auth Protocol, the Change Cipher-Spec Protocol and (HTTP)

#### Problem 22.5

##### Mode 1: Transport Mode

- If a host runs Authentication Header or Encapsulating Security Payload over Internet Protocol version 4 (IPv4) then the payload is the data.
- AH in transport mode in some portion of IP header and can authenticate IP header.

##### Mode 2: Tunnel Mode

- Packets can have different source and destination addresses.
- Firewall implements the IPsec then the tunnel mode is required in both ends of SA.



Review 23.9: Public key infrastructure, -  
Provides all components needed for entities  
to communicate securely

Problem 23.4

<https://youtube.com>

**Problem 23.4:** <https://www.youtube.com>

Public key:

04 9b 10 94 f4 1b 2a e3 1b 05 5f 71 b8 56 48 50 0a 67 60 cf 3e 33 08 a5 68 6e 84 e3 ec 69 7f  
14 87 33 60 4e c5 b3 9e 30 7f b0 b7 ff 09 41 85 49 6a dc 3a 6b 68 96 a9 92 6f e6 3d ff 0a a2 78  
15 aa

Issuer:

CN = Google Internet Authority G3

O = Google Trust Services

C = U

Issued: Wednesday, November 7, 2018 1:59:00 AM

Valid: Wednesday, January 30, 2019 1:59:00 AM

Signature type: sha256RSA

CA certificate

Certificate is currently valid

No obvious problems in this certificate

**Problem 23.5:** Arduino Certificate

Public key:

04 7a 3a e8 4d 29 21 55 d7 2d 24 0f aa 70 e2 fa bc 48 5a 80 25 5d 6a 38 34 55 12 25 4b ff 18  
37 52 6f 7d be 4c 45 c2 4c 0b 16 c7 20 17 c0 0c 7d 9f 94 b8 33 66 6c 96 cc 38 b9 00 35 f6 55  
df 6b 95

Issuer:

CN = Arduino

OU = IT

O = Arduino LLC US

C = US

Issued: Monday, August 14, 2017 11:04:03 PM

Valid: Wednesday, August 14, 2019 11:04:03 PM

Signature type: sha256ECDSA

CA certificate

Certificate is currently valid

No obvious problems in this certificate