



4111352 :

Information and Network Security

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CRACKS

DATA VIRUS

MALICIOUS SOFTWARE

THEFT

SOCIAL MEDIA ATTACKS

CYBERWARFARE

VIRUS

SOFTWARE FAILURE

NETWORK SNIFFING

SPYWARE

SOFTWARE ERROR

STOLEN INFORMATION

HUMAN ERROR

TROJAN

CYBER ATTACKS

PASSWORD CRACKING

HACKING

FRAUD

CYBERCRIMINALS

TROJAN

ADWARE

SYSTEM PENETRATION

CYBERSTALKING





1

Authenticate

Confirm the right person is accessing the system



2

Authorize

Give minimum access for their needs



3

Accounting

Monitor activities for security and compliance



Authentication



Authenticate

Confirm the right person
is accessing the system



Verifying a person's identity
username/password,
biometric data,
or other authentication scheme

Something the user knows; **password or pin**

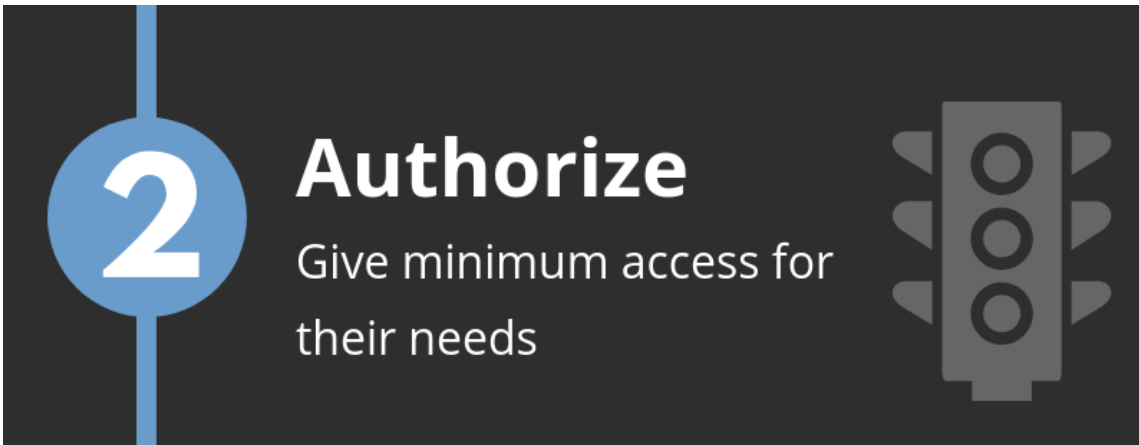
Something the user has; **smart card**

Something the user is; **biometric reading**

Something the user does; **voice recognition**

Somewhere a user is; **GPS tracked**

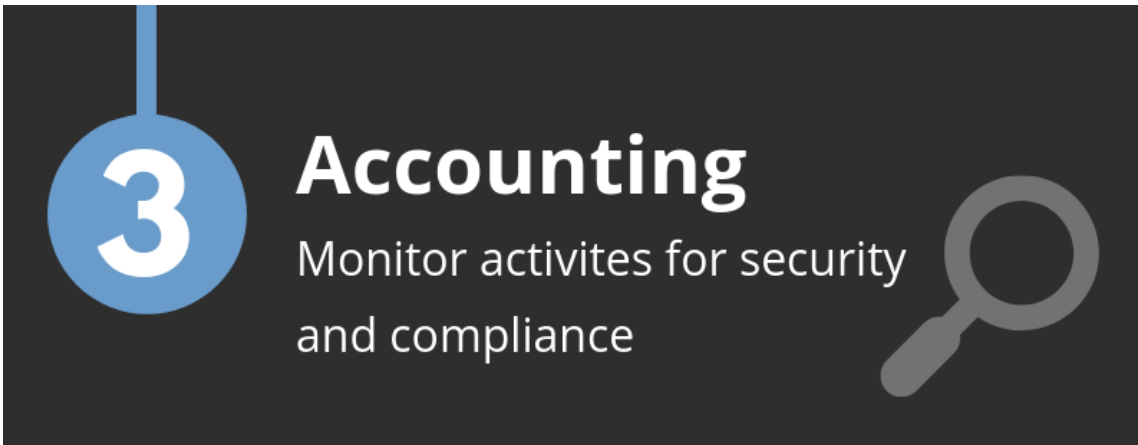
Authorization



Verifying a person's
permissions

Permission
Access control lists
Time-of-day
Restriction

Accounting



3 **Accounting**
Monitor activities for security
and compliance

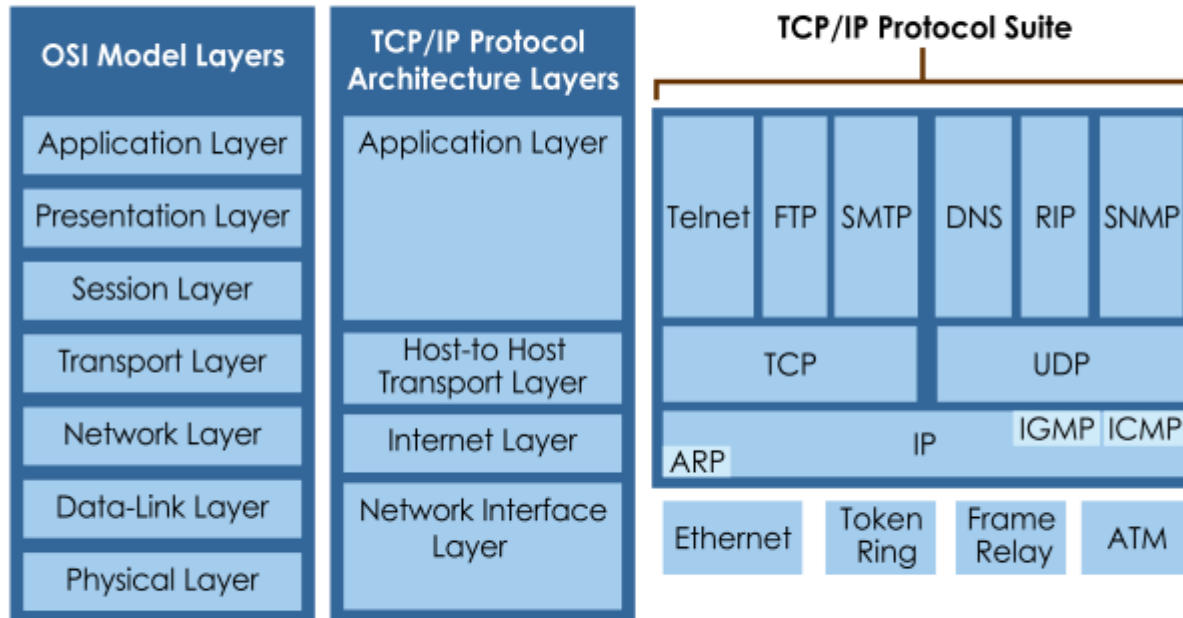
The graphic features a dark grey rectangular background. On the left, a blue circle contains the white number '3', with a vertical blue line extending upwards from the top of the circle. To the right of the circle, the word 'Accounting' is written in a bold, white, sans-serif font. Below it, the text 'Monitor activities for security and compliance' is written in a smaller, white, sans-serif font. On the right side of the rectangle, there is a light grey magnifying glass icon.

Logging
Auditing
Monitoring

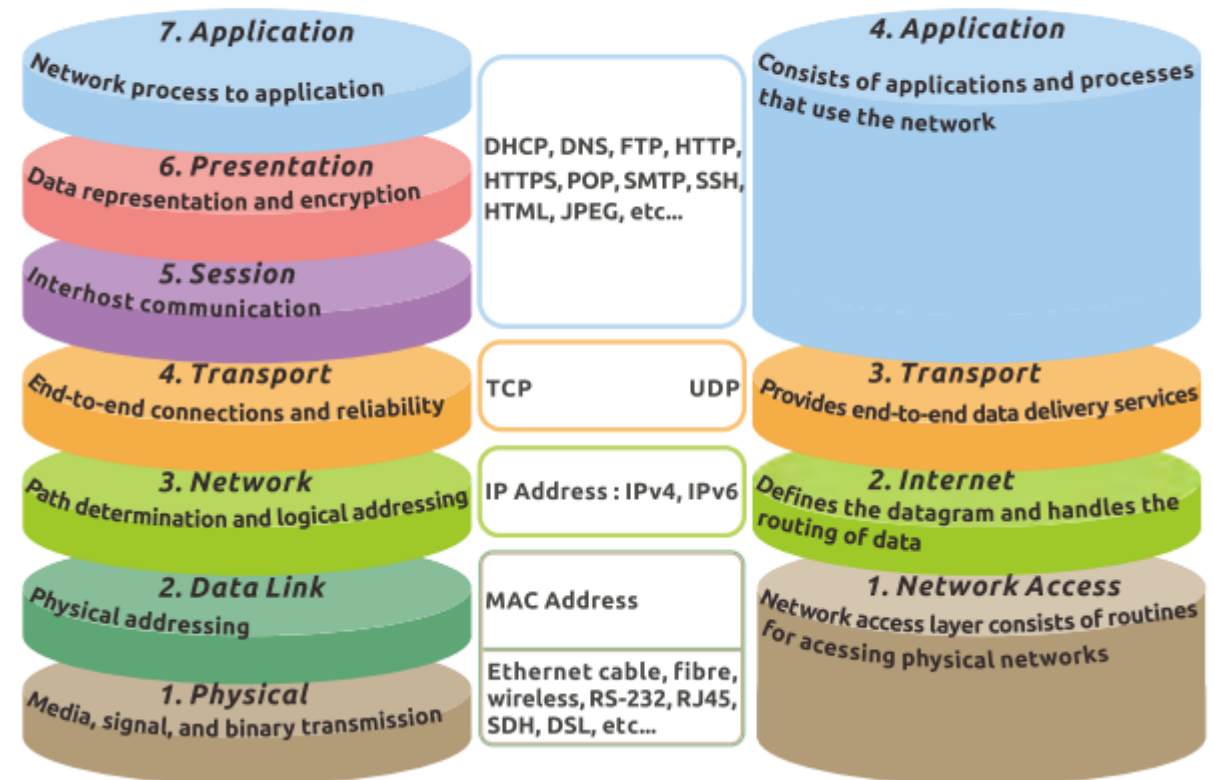
Tracking of data
Computer usage
Network resources

Data & Resource

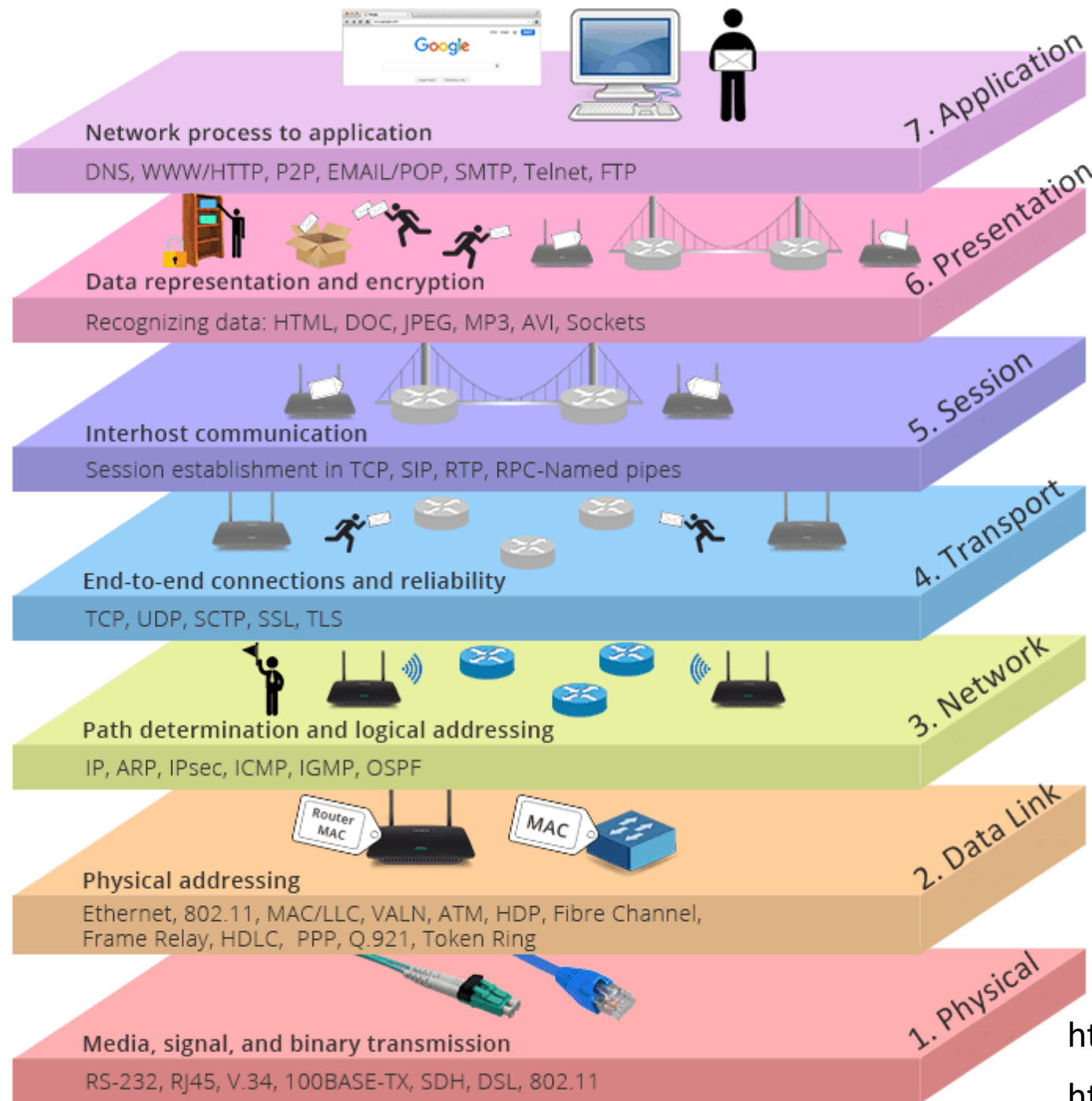
TCP/IP Protocol Architecture



OSI Model vs. TCP/IP Model



Port #	Application Layer Protocol	Type	Description
20	FTP	TCP	File Transfer Protocol - data
21	FTP	TCP	File Transfer Protocol - control
22	SSH	TCP/UDP	Secure Shell for secure login
23	Telnet	TCP	Unencrypted login
25	SMTP	TCP	Simple Mail Transfer Protocol
53	DNS	TCP/UDP	Domain Name Server
67/68	DHCP	UDP	Dynamic Host
80	HTTP	TCP	HyperText Transfer Protocol
123	NTP	UDP	Network Time Protocol
161,162	SNMP	TCP/UDP	Simple Network Management Protocol
389	LDAP	TCP/UDP	Lightweight Directory Authentication Protocol
443	HTTPS	TCP/UDP	HTTP with Secure Socket Layer



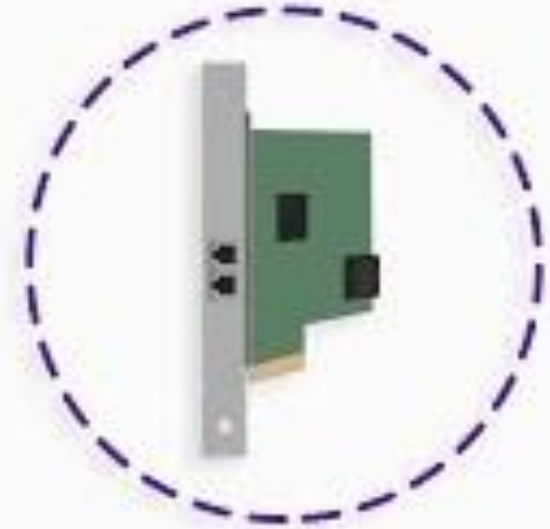
https://youtu.be/vv4y_uOneC0

https://youtu.be/llk7UXzV_Qc



What is

- 7 Application
- 6 Presentation
- 5 Session
- 4 Transport
- 3 Network
- 2 Data Link
- 1 Physical



OSI Model

OSI Model

Application Layer

Presentation Layer

Session Layer

Transport layer

Network Layer

Data Link Layer

Physical Layer



	Traditional L3 Switch	Routing Switch
Routing Performance	HW based. Wire speed.	SW based CPU Routing
L3 Routing Protocol	RIPv2, OSPFv2, Static Multicast Route, DVMRP, PIM, VRRPv2	RIPv2, OSPFv2, Static Multicast Route, DVMRP, PIM, VRRPv2
NAT/WAN	NA	NAT: 1-1 NAT, NATP(SNAT/DNAT)
Firewall	NA	Stateful Inspection firewall, DMZ
VPN	NA	IPsec, OpenVPN, GRE, L2TP

How secure is my password

การตั้งรหัสผ่าน Secure Password

1. **A - Z** ตัวอักษรภาษาอังกฤษ ตัวพิมพ์ใหญ่
2. **a - z** ตัวอักษรภาษาอังกฤษ ตัวพิมพ์เล็ก
3. **0 - 9** ตัวเลข
4. อักขระพิเศษ เช่น **~ ! @ # \$ % ^ & * () _ + /**
5. ข้อ 1 - 4 ผสมกัน อย่างน้อย **8** ตัวอักษร
6. ควรเปลี่ยน ทุก ๆ **3** เดือน หรือ **45** วัน แล้วแต่ความสะดวก
7. สำหรับรหัสผ่านที่ใช้กับระบบทางการเงิน ไม่ควรใช้รหัสผ่านเดียวกัน