

Data Communication

BLM3051



Furkan ÇAKMAK

Lecture Information Form - Weekly Subjects

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Week 11

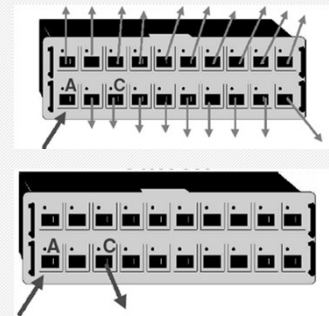
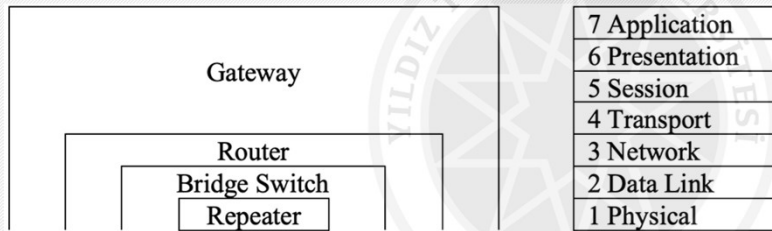
Week	Date	Subjects
1	04.10.2022	Introduction to Data Communication Standards Used on Data Communication, Architectural models
2	11.10.2022	OSI Reference Model , Layers and Their Functions
3	18.10.2022	Signaling and Signal Encoding
4	25.10.2022	Parallel and Serial Transmission, Communication Media and Their Technical Specs., Multiplexing (TDM, FDM)
5	01.11.2022	Error Detection and Error Correction Techniques
6	08.11.2022	Data Link Control Techniques, Flow Control
7	15.11.2022	Asynchronous and Synchronous Data Link Protocols (BSC, HDLC)
8	22.11.2022	1. Vize Haftası
9	29.11.2022	LAN Technologies Continued, IEEE 802.4, 802.5, 802.11
10	06.12.2022	Connectionless and Connection Oriented Services, Switching
11	13.12.2022	Communications Equipment's, TCP/IP Model, Security Issues
12	20.12.2022	Wide Area Networking Technologies (X.25, ISDN, FR, ATM, xDSL.)
13	27.12.2022	Research Presentation 1
14	03.01.2022	Research Presentation 2

Furkan ÇAKMAK

Devices

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Furkan Çakmak

VLAN

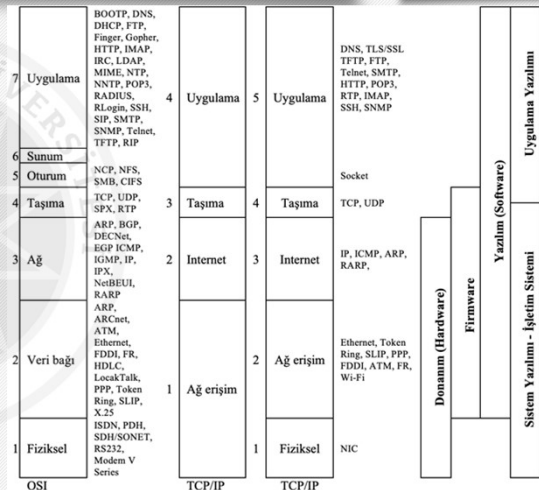
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- VLAN (Virtual LAN)
 - Port Based / Static / Layer 1 VLAN
 - MAC Based / Dynamic / Layer 2 VLAN
- Trunking
- Why VLAN?
 - Başarım
 - Sanal çalışma grupları oluşumu
 - Yönetimdeki kolaylık/sadelik
 - Maliyet
 - Güvenlik

Furkan Çakmak

- **TCP (Transmission Control Protocol)**
 - Connection Oriented
- **UDP (User Datagram Protocol)**
 - Connectionless



Furkan Çakmak

Adres Sınıfı	Adres – İkili sayı sistemindeki gösterimi	Adres aralığı	Maske	Ağ Sayısı	Konak Sayısı
A Sınıfı	0XXXXXXXXXXXXXXXXXXXXXXX	0.0.0.0-127.255.255.255	255.0.0.0	128	16.777.214
B Sınıfı	10XXXXXXXXXXXXXXXXXXXXXX	128.0.0.0-191.255.255.255	255.255.0.0	16.384	65.534
C Sınıfı	110XXXXXX.XXXXXXXXXXXXXXX	192.0.0.0-223.255.255.255	255.255.255.0	2.097.152	254
D Sınıfı	111XXXXXX.XXXXXXXXXXXXXXX	224.0.0.0-239.255.255.255			Multicast
E Sınıfı	1111XXXXX.XXXXXXXXXXXXXXX	240.0.0.0-255.255.255.255			Ayrılmıştır

Port Number	Protokol Name
20,21	FTP (File Transfer Protocol)
23	Telnet
25	SMTP (Simple Mail Transfer Protocol)
80	HTTP (HyperText Transfer Protocol)
110	POP (Post Office Protocol)

- Subnet
 - 255.255.255.0 (11111111.11111111.11111111.00000000B)
 - 255.255.255.192 (11111111.11111111.11111111.11000000B)
- NAT (Network Address Translation)
- DNS (Domain Name System)

Furkan Cakmak

Network Security

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- Ağ güvenliğinin önemli yönleri:
 - Veri bütünlüğü (data integrity)
 - Verinin kullanılabilirliği (data availability)
 - Veri mahremiyeti ve gizliliği: (data privacy and confidentiality)
- Güvenlik mekanizmaları
 - Şifreleme (Enchipherment)
 - Sayısal imza (Digital Signature)
 - Erişim kontrolü (Access Control)
 - Kimlik doğrulama (Authentication)
 - Trafik dolgusu (Traffic Padding)
 - Rotalama kontrolü (Routing Control)
 - Notere kaydettirme (Notarization)

Furkan Çakmak

Thank you for your listening.

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