

ICT Infrastructuur (I00038), herfstsemester 2006/2007

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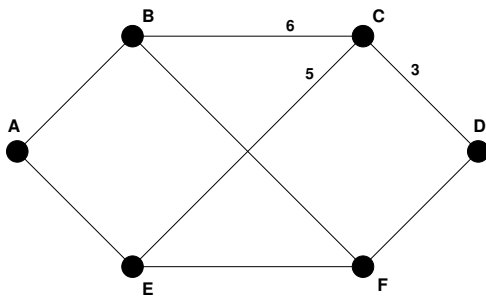
Onderwerp 6: Netwerken I

Zelfstudie: handout (uit *Computer Networks* van Andrew Tanenbaum (4th editie)), 1-49, 343-352, 357-360, 384-396, 431-449

Werkcollege (20 november)

(De volgende opgaven komen uit *Computer Networks*.)

1. Datagram subnets route each packet as a separate unit, independent of all others. Virtual circuit subnets do not have to do this, since each packet follows a predetermined route. Does this observation mean that virtual circuit subnets do not need the capability to route isolated packets from an arbitrary source to an arbitrary destination? Explain your answer.
2. Consider the subnet of the figure below. Distance vector routing is used and the



Figuur 1: The topology of the network.

Dest.	Link	Delay
A	E	6
B	B	2
C	-	0
D	D	3
E	E	1
F	D	10

Figuur 2: C's old routing table.

following vectors have just come in to router C: from B: (5, 0, 8, 12, 6, 2), from D: (16, 12, 6, 0, 9, 10), and from E: (7, 6, 3, 9, 0, 4). The measured delays to B, D and E are 6, 3, and 5 respectively. What is C's new routing table? Give both the outgoing line to use and the expected delay.

3. Give an argument why the leaky bucket algorithm should allow just one packet per tick, independent of how large the packet is.