

コンピュータネットワーク特論レポート 4

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1

$$B = (5, 0, 8, 12, 6, 2)$$

$$D = (16, 12, 6, 0, 9, 10)$$

$$E = (7, 6, 3, 9, 0, 4)$$

$$l_{CB} = 6, l_{CD} = 3, l_{CE} = 5$$

adding $l_{CB} = 6, l_{CD} = 3, l_{CE} = 5$ to B, D and E respectively yields the table below.

	B	D	E
A	11	19	12
B	6	15	11
C	14	9	8
D	18	3	14
E	12	12	5
F	8	13	9

choosing the smallest values on each row, the new table for node C is shown below

Node	Cost	Outgoing Line
A	11	B
B	6	B
C	0	
D	3	D
E	5	E
F	8	B

2 The parameters for the token bucket are shown below.

$$B_{current} = 48bytes$$

$$S = 6\mu s$$

$$R = \frac{48}{6 \times 10^{-6}} = 8MBps$$

$$M = ?$$

$$B_{current} + RS = MS$$

$$M = \frac{B_{current} + (RS)}{S}$$

$$\therefore M = \frac{48 + (8 \times 6)}{6 \times 10^{-6}}$$

$$M = 16MBps = 128Mbps$$

therefore the maximum sustainable data rate 128Mbps

3 The parameters for the token bucket are shown below.

$$B_{current} = 8Mb$$

$$R = 1Mbps$$

$$M = 5Mbps$$

$$S = ?$$

To calculate the time required to transmit at the full 5Mbps, the following conversion is made below.

$$B_{current} + RS = MS$$

$$M = \frac{B_{current}}{M - R}$$

$$\therefore M = \frac{8}{5 - 1}$$

$$S = 2s$$

therefore the time required to transmit at the full 5Mbps is 2 seconds.