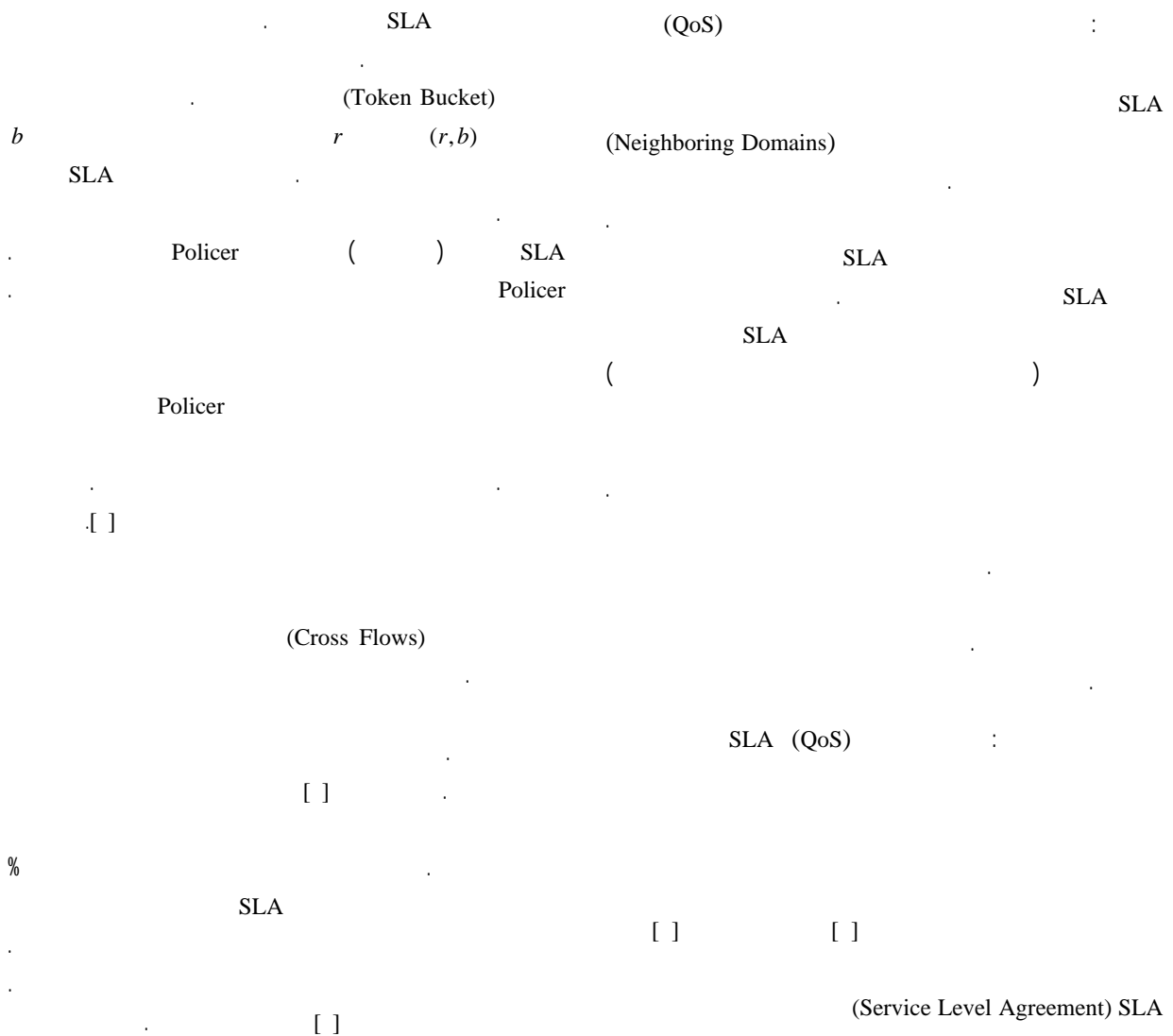


Kalantari@eetd.kntu.ac.ir

M.Mollaei@ee.kntu.ac.ir



(Policer)

SLA

[]

SLA

()

TC_i^j j i

(P_1)

(t_3 t_1)

L_1

P_1

P_1

P_2

$t_2 = t_1 + L_1 / C_1$

() P_2

() []

$TC_{t_2}^1 = b - L_1 + rL_1 / C_1$

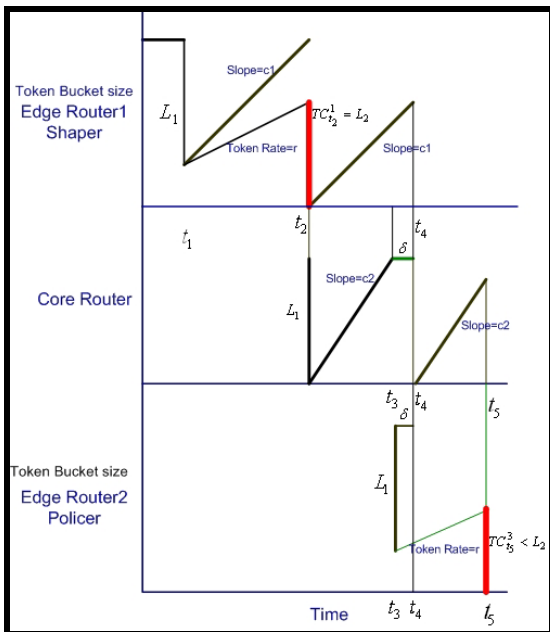
()

P_2

L_2

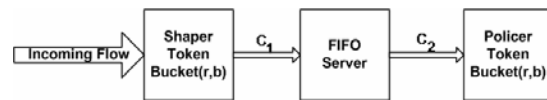
SLA

SLA



SLA

()



()

C_1 bps

FIFO

C_2 bps

Policing

SLA

SLA

DSCP

[]

$C_2 > C_1$

L_2 L_1

P_2 P_1

b

t_2

L_1 / C_2

C_2 bps

δ

t_3

SLA

P_2

()

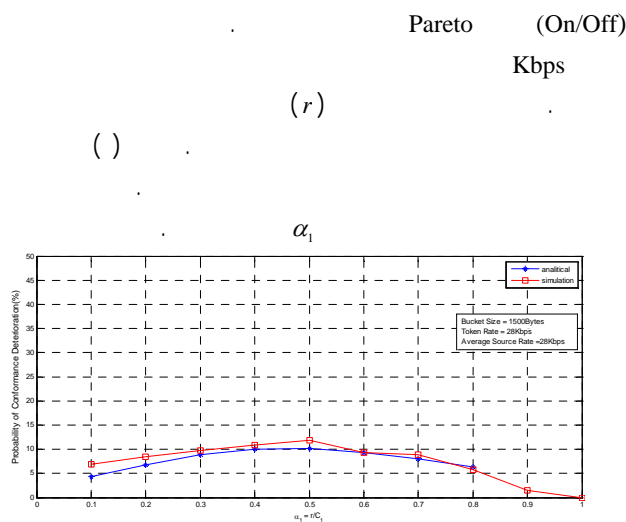
P_2

P_1

$$P_{ConDet} = p(\delta \leq 0) * p(TC_{t_5}^3 < W | TC_{t_2}^1 > W, \delta \leq 0) + p(\delta > 0) * p(TC_{t_5}^3 < W | TC_{t_2}^1 > W, \delta > 0)$$

$$P_{ConDet} = \frac{\alpha_2 \alpha_1 (1 - \alpha_2)}{(\alpha_1 + \alpha_2 - \alpha_1 \alpha_2)(1 + \alpha_1)} + \left\{ \frac{(\alpha_1 + \alpha_2)(\alpha_1 + \alpha_1^2 - \alpha_2)(2\alpha_1 - \alpha_2)}{(1 - \alpha_1 - \alpha_2)\alpha_1^2} \right\} * \left\{ \frac{\alpha_1^2(2 - \alpha_1)}{2(\alpha_1 + \alpha_2 - \alpha_2^2)^2} - \frac{\alpha_1}{\alpha_1 + \alpha_2 - \alpha_2^2} + \frac{1}{2(2 - \alpha_1)} \right\}$$

[] NS-2



Kbps Kbps C₁

/ alpha₁

()

()

/ alpha₁

()

/ alpha₁

$$\delta = (L_2 / C_1) - (L_1 / C_2) \quad (1)$$

()

delta <= 0

delta > 0

$$TC_{t_5}^3 = b - L_1 + rL_2 / C_2$$

$$TC_{t_5}^3 = b - L_1 + r\delta + rL_2 / C_2$$

P₂ P₁

W Z

()

$$f_z(z) = f_w(w) = 1/b \quad (2)$$

r / C₁

alpha₃ alpha₂ alpha₁

delta

r / C₃ r / C₂

()

$$\delta = (W / C_1) - (Z / C_2) \quad (3)$$

()

P(delta <= 0)

C₂ > C₁

$$P(\delta \leq 0) = \alpha_2 / 2\alpha_1 \quad (4)$$

()

P(delta > 0)

$$P(\delta > 0) = 1 - (\alpha_2 / 2\alpha_1) \quad (5)$$

Y X

P₁

P₁

() P₁

$$X = Y = b \quad (6)$$

P_{ConDet}

()

SLA

P₂

$$TC_{t_2}^1 = X - Z + rZ / C_1 > W \quad (7)$$

(Policer)

P₂

()

SLA

$$\begin{cases} TC_{t_5}^3 = Y - Z + r\delta + r\frac{W}{C_2} < W & \delta > 0 \\ TC_{t_5}^3 = Y - Z + r\frac{W}{C_2} < W & \delta \leq 0 \end{cases}$$

()

() / α_3 α_2
/ α_1

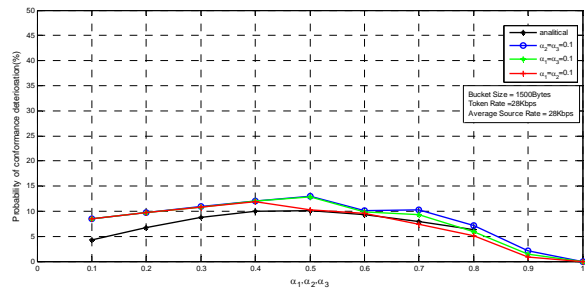
(PIR)

PIR

PIR

[]

PIR



()

(Peak Information Rate) PIR

()

PIR

[]

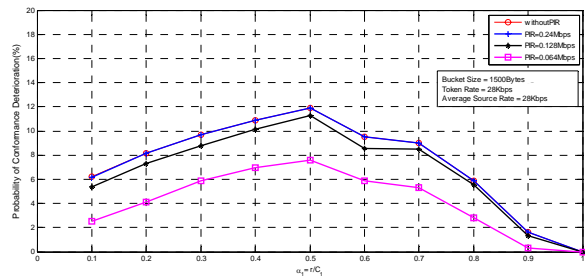
Kbps PIR

()

% %

PIR

% %



()

(PIR)

[]

Policer

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