% c

N = 20;

lambda = 1500;

alfa = 0.1;

C = 10;

f = 10000;

P = 100000;

n = [10 20 30 40];

results = zeros(length(n), 7, 2);

for l=1:length(n)

tmp = zeros(7, N);

for i=1:N

[tmp(1, i), tmp(2, i), tmp(3, i), tmp(4, i), ...

tmp(5, i), tmp(6, i), tmp(7, i)] = Simulator4A(lambda, C, f, P, n(l));

end

for i=1:7

results(l, i, 1) = mean(tmp(i, :));

results(l, i, 2) = norminv(1-alfa/2)\*sqrt(var(tmp(i, :))/N);

end

end

bar(n, results(:, 1, 1));

title("Data Packet Loss variation with number of VoIp flows");

xlabel("Number of VoIp flows");

ylabel("Data Packet Loss (%)");

ylim([0 1.8]);

grid on;

hold on;

er = errorbar(n, results(:, 1, 1), results(:, 1, 2), results(:, 1, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;

bar(n, results(:, 2, 1));

title("VoIp Packet Loss variation with number of VoIp flows");

xlabel("Number of VoIp flows");

ylabel("VoIp Packet Loss (%)");

grid on;

hold on;

er = errorbar(n, results(:, 2, 1), results(:, 2, 2), results(:, 2, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;

bar(n, results(:, 3, 1));

title("Average Data packet delay variation with number of VoIp flows");

xlabel("Number of VoIp flows");

ylabel("Average Data packet delay (ms)");

ylim([0 4]);

grid on;

hold on;

er = errorbar(n, results(:, 3, 1), results(:, 3, 2), results(:, 3, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;

bar(n, results(:, 4, 1));

title("Average VoIp packet delay variation with number of VoIp flows");

xlabel("Number of VoIp flows");

ylabel("Average VoIp packet delay (ms)");

grid on;

hold on;

er = errorbar(n, results(:, 4, 1), results(:, 4, 2), results(:, 4, 2));

er.Color = [0 0 0];

er.LineStyle = 'none';

hold off;