Computer System Modelling p9q7
2000 IML

	V_i	S_i	D_i
C	10	2.5ms	25ms
D1	5	10ms	50 ms
D2	2	50ms	100 ms
D3	2	20m	40ms

bottleneck is D2.
max throughput 10 trans/sec

$D_{av} = \frac{215^{ms}}{4} \approx 54ms$ $D_{max} = 100$ ms

balanced systems Opt = 4 devices $D = 54ms$ 2/9 trans/sec
Pess = 3 devices $D = 100ms$ 10 tran./sec

$$X = \frac{N}{N+K+1} \times \frac{1}{D}$$

$$D \cdot X \cdot (N+K+1) = N$$

$$DX(K+1) = N(1-DX)$$

$$N = \frac{DX(K+1)}{1-DX}$$

Opt $K=4$, $XD = .378$ $\Rightarrow N = \frac{.378(3)}{.622} \approx 1\frac{1}{2}$
Pess $K=3$, $XD = .7$ $\Rightarrow N = \frac{.7(2)}{.3} \approx 4\frac{1}{2}$

between $1\frac{1}{2}$ and $4\frac{1}{2}$

(Pess is very pessimistic)