

## Errata

### “Performance by Design: Computer Capacity Planning by Example”

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Some of the following errors may have already been corrected if you have a second or more recent printing.

1. Chapter 4, page 117, exercise 5: the sentence “In Example 4.4 ...” should be “In Example 4.5 ...”.
2. Chapter 5, page 124, second paragraph: the sentence starting with “The fourth quartile ...” should be “The fourth quartile follows from the maximum value, with 100% of the CPU times below 507.5 msec.”
3. Chapter 5, Page 150, equation for  $D_{\text{cpu,update}}$  should be:

$$D_{\text{cpu,update}} = \frac{0.97 \times \frac{50}{50+14+20} \times \frac{60}{30+60} \times \frac{140}{120+140}}{400/1800} = 0.933 \text{ sec}$$

4. Chapter 5, Page 161, exercise 7, first line of page: the total CPU time should be 509.25 sec and not 567 sec.
5. Chapter 13, Page 361, Table 13.7: the queue length values for Iteration 1 are not correct. The values shown for class 1 are the ones for class 2 and vice versa.
6. Chapter 15, page 430, items 1 and 2 should be replaced by
  - (a) *Build a single-class model.* This model includes the corporate class only, the original CPU, the terminals, and the disks. Using the parameters of Table 15.4 in the MVA algorithm, yields the throughput of the corporate class as 19.4 request/sec. Therefore, the CPU utilization can be computed as  $U_{\text{cpu},p} = D_{\text{cpu},p} \times X_{0,p} = 0.033 \times 19.4 = 0.64$ .

- (b) *Add the shadow CPU and the consumer class.* Compute the service demands at the shadow and original CPUs as follows:

$$D_{\text{cpu},c}^{\text{org}} = 0 \quad \text{and} \quad D_{\text{cpu},p}^{\text{shw}} = 0$$

$$D_{\text{cpu},p}^{\text{org}} = D_{\text{cpu},p} = 0.033 \text{ sec}$$

$$D_{\text{cpu},c}^{\text{shw}} = \frac{D_{\text{cpu},c}}{1 - U_{\text{cpu},p}} = \frac{0.015}{1 - 0.64} = 0.0417 \text{ sec}$$

Using the MVA algorithm, the response time for the corporate class is computed as 0.232 sec and as 8.706 sec for the consumer class. So there was a significant improvement in the response time of the corporate class (from 3.74 sec to 0.232 sec) with a significant increase in the response time of the consumer class (almost five-fold increase). The reason is that the corporate class has a service demand at the CPU that is more than double that of the consumer class.