Chapter 5: Conclusion

Final Exam: Question 2

Problem:

Scenario

We built a very successful navigation application for cell phones. The application has been installed on many devices throughout the world.

Over a long period of time, the application is active on an average of 10 million cell phones, with a maximum peak of 50 million devices at the busiest time of the year. This average value includes all of the peaks.

Each device, when active, sends 100 bytes of data every minute, which the server writes as one operation.

We want to keep the data for one year.

Based on the above numbers, which of the following are true statements regarding the quantification of this workload and the sizing of the database?

To simplify the calculations and conversions in data units, use:

- 1,000,000,000 bytes is 1 gigabyte
- 1,000,000,000,000 bytes is 1 terabyte
- 1,000,000,000,000,000 bytes is 1 petabyte

and round all results to 2 significant digits.

Attempts Remaining: Correct Answer

Check all answers that apply:

- [ ] The size of the data in the database is 2.6 terabytes.

- [x] The size of the data in the database is 530 terabytes.
- [ ] The size of the data in the database is 2.6 petabytes.
- [ ] The peak write rate is 17,000 writes/second.
- [ ] The peak write rate is 170,000 writes/second.
- [x] The peak write rate is 830,000 writes/second.
- [ ] The average write rate is 17,000 writes/second.
- [ ] The average write rate is 83,000 writes/second.
- [x] The average write rate is 170,000 writes/second.

See detailed answer

Proceed to next section

Assignment is Due

05d:02hr:18m
07 sty, 17:00 UTC

Your Grade

PASS/FAIL
Submitted