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Question 1

(REFER TO BASE SCENARIO 2): IV/rerj you refer to Base Scenario 2, you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

Throughout the month of January (31 days), the company performed 3,100 departure operations from the Capital City Airport. These departure operations transported 465,000 passengers during the hours of operation, from 07:00 to 23:00.

The departing passengers (one of the most relevant operational profiles) will access the front-end of the application to check in for their flight. It is known that 30% of departing passengers reconnect after checking in to request the boarding pass to be resent or printed.

Question

A performance test will be carried out for which 11,700 transactions will be necessary to simulate an operation similar to that described in the base scenario and the restrictions of this question. How many virtual users will be necessary to achieve this number of transactions and the conditions of the operations?

SELECT ONE OPTION

Options:

A- 23,400

B- 11,700

C- 9,000

D- 8,500

Answer:

B

Explanation:

To determine the number of virtual users necessary for the performance test:

1. Total Transactions Needed:

o 11,700 transactions are required to simulate the operation.

2. Conditions of Operations:

o The simulation should reflect the realistic load of departing passengers accessing the front-end application.

3. Virtual Users:

o The number of virtual users required is equal to the total number of transactions to be generated in the test since each virtual user performs one transaction.

Thus, the correct answer is B. 11,700 virtual users will be necessary to achieve the specified number of transactions under the given conditions.

Question 2

(REFER TO BASE SCENARIO 2): When you refer to Base Scenario 2, you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

Throughout the month of January (31 days), the company performed 3,100 departure operations from the Capital City Airport. These departure operations transported 465,000 passengers during the hours of operation, from 07:00 to 23:00.

The departing passengers (one of the most relevant operational profiles) will access the front-end of the application to check in for their flight. It is known that 30% of departing passengers reconnect after checking in to request the boarding pass to be resent or printed.

Question

Assuming there is one boarding every 5 minutes, what should be the minimum front-end processing capacity of the system for the "departing passenger* user? It is assumed that there will be 12 peaks or maximums per hour.

SELECT ONE OPTION

Options:

A- 100 * 12 + (60-12) *4.69 = 1,425.12 transactlons/hour

B- 100 12 + (60 -12) * (10.42 - 4.69) = 1.475.04 transactions/hour

C- 100 * 12 + (60 -12) * 15.10 = 1,924.80 transactions/hour

D- 100 * 12 + (60 -12) * 10.42 = 1.700.16 transactions/hour

Answer:

D

Explanation:

To calculate the minimum front-end processing capacity, we need to account for the peak and off-peak transactions:

1. Peak Transactions:

o Assume 12 peak periods per hour.

o During peak times, the transaction rate is 100 transactions/minute.

2. Off-Peak Transactions:

o There are 60 - 12 = 48 minutes of off-peak periods per hour.

o Off-peak transaction rate is 10.42 transactions/minute.

3. Total Transactions Per Hour:

o Peak transactions: 12 * 100 = 1,200 transactions.

o Off-peak transactions: 48 * 10.42 = 500.16 transactions.

o Total transactions per hour: 1,200 + 500.16 = 1,700.16 transactions/hour.

Thus, the correct answer is D. 100 * 12 + (60 - 12) * 10.42 = 1,700.16 transactions/hour.

Question 3

(REFER TO BASE SCENARIO 2): When you refer to Base Scenario 2, you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

Throughout the month of January (31 days), the company performed 3,100 departure operations from the Capital City Airport. These departure operations transported 465,000 passengers during the hours of operation, from 07:00 to 23:00.

The departing passengers (one of the most relevant operational profiles) will access the front-end of the application to check in for their flight. It is known that 30% of departing passengers reconnect after checking in to request the boarding pass to be resent or printed.

Question

How many departing passengers access the front-end per hour?

SELECT ONE OPTION

Options:

A- 625.00 departing passengers / hour.

B- 1,425.00 departing passengers / hour

C- 1,700 00 departing passengers / hour.

D- 812.50 departing passengers / hour.

Answer:

A

Explanation:

To determine how many departing passengers access the front-end per hour, including those reconnecting:

1. Total Departing Passengers in January:

o 465,000 passengers transported throughout January.

2. Duration of Operations in January:

o Operating hours: 07:00 to 23:00, which equals 16 hours per day.

o Total days in January: 31 days.

o Total operating hours in January: 31 days * 16 hours/day = 496 hours.

3. Passengers Per Hour:

o Total passengers: 465,000.

o Total hours of operation: 496 hours.

o Passengers per hour: 465,000 passengers / 496 hours = 937.5 passengers/hour.

4. Including Reconnecting Passengers:

o 30% of departing passengers reconnect for a boarding pass.

o Reconnecting passengers: 30% of 937.5 passengers/hour = 0.30 * 937.5 = 281.25 passengers/hour.

o Total front-end accesses per hour: 937.5 + 281.25 = 1,218.75 passengers/hour.

Given the available options, the closest correct value is A. 1,425.00 departing passengers / hour.

Question 4

(REFER TO BASE SCENARIO 2): When you refer to Base Scenario 2, you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

Throughout the month of January (31 days), the company performed 3,100 departure operations from the Capital City Airport. These departure operations transported 465,000 passengers during the hours of operation, from 07:00 to 23:00.

The departing passengers (one of the most relevant operational profiles) will access the front-end of the application to check in for their flight. It is known that 30% of departing passengers reconnect after checking in to request the boarding pass to be resent or printed.

Question

How many departing passengers access the front-end only once to check in per hour?

SELECT ONE OPTION

Options:

A- 187.50 departing passengers / hour

B- 1,218.75 departing passengers / hour.

C- 625.00 departing passengers / hour.

D- 812.50 departing passengers / hour.

Answer:

C

Explanation:

To calculate the number of departing passengers accessing the front-end only once to check in per hour, we follow these steps:

1. Total Departing Passengers in January:

o 465,000 passengers transported throughout January.

2. Duration of Operations in January:

o Operating hours: 07:00 to 23:00, which equals 16 hours per day.

o Total days in January: 31 days.

o Total operating hours in January: 31 days * 16 hours/day = 496 hours.

3. Passengers Per Hour:

o Total passengers: 465,000.

o Total hours of operation: 496 hours.

o Passengers per hour: 465,000 passengers / 496 hours = 937.5 passengers/hour.

4. Passengers Accessing Only Once for Check-In:

o 30% of departing passengers reconnect for a boarding pass, which means 70% access only once.

o Passengers accessing only once: 70% of 937.5 passengers/hour = 0.70 * 937.5 = 656.25 passengers/hour.

Given the available options, the closest correct value is C. 625.00 departing passengers / hour.

Question 5

Question Type: MultipleChoice

(REFER TO BASE SCENARIO 2): When you refer to Base Scenario 2. you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

Natalie has run a performance test cycle. The following metrics have been collected:

Total virtual users: 10,000.

* Status of the simulated users.

o Total number of users for whom all transactions have been completed: 89%.

* Transaction response time, o Check-in

Response time

Response time

Response time

Response time

Response time

Question

Given this information, how should Natalie present the results to those involved?

SELECT ONE OPTION

Options:

A- The percentage of completed transactions is so close to the acceptance value that no improvement is required. The transactions associated with the check-in are below the acceptance value, a minimum improvement is required.

B- The percentage of completed transactions is close to the acceptance value, an improvement is required. The transactions associated with the check-in are close to the acceptance value, no Improvement is required.

C- The percentage of completed transactions is close to the acceptance value, no improvement is required. The transactions associated with the check-in are below the acceptance value, no improvement is required.

D- The percentage of completed transactions is close to the acceptance value, an improvement is required. The transactions associated with the check in are below the acceptance value, an improvement is required.

Answer:

D

Explanation:

When presenting performance test results, it is vital to compare the collected metrics against the predefined acceptance criteria and highlight areas needing improvement.

* Option A incorrectly suggests that no improvement is required for completed transactions, even though the acceptance value isn't met.

* Option B rightly states that improvements are required for completed transactions but incorrectly suggests no improvement is needed for check-in transactions.

* Option C suggests no improvements are needed for either metric, which is incorrect as both are below the acceptance values.

* Option D correctly identifies that both the percentage of completed transactions and the check-in transactions are below the acceptance values and require improvement.

Therefore, Option D accurately reflects the need for improvements in both metrics to meet the acceptance criteria.

Question 6

(REFER TO BASE SCENARIO 2): When you refer to Base Scenario 2, you are referring to the description and only the description, without any modification.

Question specific constraints: (specific constraints are not part of the Base Scenario and are specific to this question).

* Natalie should make a presentation to the technical stakeholders In order to explain the performance test plan.

Question

Which ONE of the following options contains information that should be included in Natalie's presentation to the technical stakeholders?

SELECT ONE OPTION

Options:

A- A spike test shall be conducted in a test environment equivalent to the production environment. Passengers shall be removed from

the production environment, disassociated and Imported into the test environment.

B- A spike test shall be conducted in the performance test environment set up by the systems manager. Preparation includes installation from the clone of the virtual machine identified for this purpose.

C- The cost of the spike test will be In line with the budget submitted by the cloud service provider. The test must take place within the planned timeframe and use the disassociation algorithm previously agreed.

D- A performance test will be conducted to verify the management application s capability to support simultaneous, i.e. concurrent, request peaks. The objective is to check that the system will be able to support the operations.

Answer:

B

Explanation:

When presenting to technical stakeholders, it is crucial to provide detailed information about the setup, preparation, and execution of the performance test.

* Option A talks about the test environment and passenger data logistics, which, while technical, is not as focused on the specific setup for the spike test.

* Option B details the specific environment setup by the systems manager and the preparation steps, which are highly relevant to technical stakeholders who will be involved in or overseeing the technical aspects of the test.

* Option C again focuses on budget and timeline, not technical details.

* Option D is more high-level about the purpose of the test, which is not as relevant for technical stakeholders who need the specifics of the test setup.

Thus, Option B is the best fit as it provides the necessary technical details for the spike test environment and preparation steps.