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# **Q&A**

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**Exam** : **70-548(C++)**

**Title** : PRO:Design & Develop  
Wdws-Based Appl by Using  
MS.NET Frmwk

**Version** : DEMO

1. You create Microsoft Windows-based applications. You are creating a component that will encapsulate a data source. Dozens of applications will use the component.

The component must meet the following design requirements:

- 1.The component must be able to be modified within a Rapid Application Development environment.
- 2.The component must be without a user interface.

You propose to derive the component from the System.Windows.Forms.Control class and to implement the IComponent interface. You need to decide whether the component will meet the requirements. What should you conclude?

- A. The solution meets both the design requirements.
- B. The solution does not meet any of the design requirements.
- C. The solution meets the second requirement but not the first requirement.
- D. The solution meets the first requirement but not the second requirement.

**Answer: D**

2. You create Microsoft Windows-based applications. You are designing a component that will draw a series of graphics based on an interactive user input. You need to ensure that the user can use the input without waiting for the graphics to be drawn. What should you do?

- A. Design the component as a single-threaded component.
- B. Design the component as a single-threaded apartment component.
- C. Design the component as a multi-threaded component that has a thread for user input and a thread for graphics. Grant the user input thread a higher priority than the graphics thread.
- D. Design the component as a multi-threaded component that has a thread for user input and a thread for graphics. Grant the user input thread a lower priority than the graphics thread.

**Answer: C**

3. You create Microsoft Windows-based applications. You are responsible for maintaining your companys application framework. You analyze the requirements for some of the applications that your company develops. You identify a common functionality. The functionality includes user interface elements as well as data-binding logic and display logic. You need to implement the functionality in such a way that other applications can reuse it. Which type of component should you implement?

- A. data access component
- B. business logic component
- C. control library
- D. data structure component

**Answer: C**

4. You create Microsoft Windows-based applications.

You are designing a class to be used by multiple client applications. This class will be used to generate unique account numbers. Your company guidelines state that unique number generating components must comply with the following design pattern:

Classes must be designed so that they cannot be instantiated directly by client applications.

Only a single instance of the class must be used by all the client applications.

Instance methods and properties for these classes must be accessible to client applications.

You need to define how this class will implement the design pattern. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Declare the class constructors as private.
- B. Declare the class constructors as internal.
- C. Create a public static method to retrieve an existing instance of the class, or a new instance if one does not exist.
- D. Create a public instance method to retrieve an existing instance of the class, or a new instance if one does not exist.
- E. Create a private static method to retrieve an existing instance of the class, or a new instance if one does not exist.

**Answer: BC**

5. You create Microsoft Windows-based applications. You create a component to process daily reports.

These daily reports are data-driven.

Eight database tables dictate the following properties:

the data that is printed

the format of the data

the order of output

The component loads the configuration data into a specific internal structure. Subsequently, the component retrieves and outputs the report data based on the configuration settings that are stored in the internal structure. The database is not updated. You need to develop the data handling capabilities of the component to manage the configuration data and the report data. You also need to ensure that the reports are generated as quickly as possible. Which two data handling mechanisms should you choose? (Each correct answer presents part of the solution. Choose two.)

- A. Use a `DataReader` object to load the report data based on the configuration data. Perform the required calculations.
- B. Use a `DataReader` object to load the configuration data from the database.
- C. Use a `DataAdapter` object and a `DataSet` object to load the configuration data from the database.
- D. Use a `DataAdapter` object and a `DataSet` object to load the report data based on the configuration data. Perform the required calculations.

**Answer:** AB

6. You create Microsoft Windows-based applications. You create a component that calls an existing function. The design for the function specifies that it might throw an application-specific exception named `InvalidChecksumException`, which inherits from `System.ApplicationException`. The `InvalidChecksumException` exception is an error that can be handled. But the component cannot handle any other type of error. The component does not have any additional information that can be added to other types of errors. You need to design the component to correctly handle exceptions. You also need to ensure that the exception-handling strategy does not affect performance. What should you do?

- A. Use a catch statement that has a filter for `ApplicationExceptions` and find the exception type. If it is `InvalidChecksumException`, handle it automatically or rethrow the exception.
- B. Use only a catch statement that has a filter for `InvalidChecksumExceptions` and handle them automatically.
- C. Use a catch statement that has an empty filter. Verify the `Message` property to see if the exception is an `InvalidChecksumException` and perform the automatic recovery or rethrow the exception.
- D. Use a catch statement that has a filter for `InvalidChecksumException`, followed by another catch statement that has a filter for `Exception`. In the first catch block, automatically handle the exception. In the

second catch block, log the error and rethrow the exception.

**Answer: B**

7. You create Microsoft Windows-based applications. You are creating a component. The component performs statistical computations by using sets of data from a large, complex database. According to the design specification, the component performs a full set of calculations in not more than 5 seconds. Currently, the component takes more than 20 seconds to perform the required calculations. The project is almost complete and you must resolve the performance issues quickly. You need to identify the major processing performance issues in the component. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Add custom instrumentation to the component for operations that you expect will exceed performance requirements.
- B. Use SQL Profiler when you run the component to identify long-running database queries.
- C. Use Microsoft Network Monitor to identify long-running or large network data transfers.
- D. Use the common language runtime (CLR) profiler to identify the most used and long-running functions in the component and the specific external functions they call.
- E. Create a custom test harness that calls individual functions and measures how long they take to run.

**Answer: BD**

8. You create Microsoft Windows-based applications. You are developing an application that will be used by stock traders. The project scope contains the following requirements:

The application must permit users to set thresholds for minimum and maximum values for different stocks.

The application must alert the user when stock prices reach the pre-defined thresholds.

The application must permit the user to either buy or sell stock and specify the quantity of stock to trade.

The application must permit multiple alerts to be displayed simultaneously.

You need to decide how to implement the alert mechanism. What should you do?

- A. Use a modal dialog box to show each alert and to permit the user to trade stocks.
- B. Use a message box to show each alert and the main application form to permit the user to trade stocks.

C. Use a BalloonTip control to display multiple alerts and the main application form to permit the user to trade stocks.

D. Use a custom BalloonTip control to display multiple alerts and to permit the user to trade stocks.

**Answer: D**

9. You create Microsoft Windows-based applications. You are designing an application that streams multimedia data. The application must have minimal impact on the network. The application will be used by Microsoft Windows XP Professional client computers and Microsoft Windows Server 2003 client computers. The media you need to use is stored on a file server in a nonproprietary raw video format and the files are unedited. You need to choose an appropriate design modification that requires the least amount of programming effort. What should you do?

A. Write code to convert the video files to Microsoft Windows Media Video (WMV) format in real time.

B. Convert the video files to Microsoft Windows Media Video (WMV) format, and resample the video to a bit rate that is acceptable.

C. Write a custom file format filter for Microsoft DirectShow, and distribute the filter to the client computers.

D. Convert the video files into separate audio and video files.

**Answer: B**

10. You create Microsoft Windows-based applications. You design a composite user control that is used to enter e-mail addresses. The control is as shown in the following exhibit. (Click the Exhibit button.) The control validates the user input by using a regular expression. The control validates e-mail addresses and prevents the user from submitting blocked e-mail addresses. The control must permit the user to correct the entry if the user enters a blocked e-mail address. You need to provide feedback if the user enters a blocked e-mail address in the txtEmailAddress text box. What should you do?



A. Write a code segment to throw an application exception.

B. Set a custom property of the composite user control to indicate a data validation error.

C. Write a code segment to display a message box if the user enters a blocked e-mail address.

D. Write a code segment to clear the txtEmailAddress text box if the user enters a blocked e-mail address.

**Answer: C**

11. You create Microsoft Windows-based client applications. You are designing a smart client application for warehouse packaging clerks. The application must permit the clerks to add and delete items in the packaging invoices they create at their workstations. Each workstation has only a keyboard and a hand-held barcode scanner for input. You need to design the user interface for the application such that the clerks can add and delete items with minimum effort. What should you do?

- A. Add to the form a context menu that has Add to Invoice and Remove from Invoice menu items.
- B. Add to the form a menu that has Add to Invoice and Remove from Invoice menu items.
- C. Add to the form a KeyPress event handler that toggles between Add to Invoice and Remove from Invoice modes.
- D. Add to the form a ToolStrip control that has a button that toggles between Add to Invoice and Remove from Invoice modes.

**Answer: C**

12. You create Microsoft Windows-based applications. You are designing a user interface for a multi-page questionnaire.

You need to ensure that the user interface meets the following business requirements:

The user interface is reusable.

The user interface requires the user to select three out of five choices for each question.

The user interface permits the user to check a box to select the correct answer or answers.

What should you do?

- A. Create a custom Windows user control that inherits from a CheckedListBox control.
- B. Use a multi-select ListBox control that displays the possible answers.
- C. Use a TextBox control for the user to enter answers separated by commas.
- D. Use a CheckedListBox control to display the possible answers.

**Answer: A**

13. You create Microsoft Windows-based applications. You are designing an application that permits

insurance agents to provide insurance quotes to prospective customers. The application permits insurance agents to survey the customer and enter the customers responses into the application. Each customer response adjusts the computed level of risk for the customer depending on how the customer answers the question.

The application must meet the following requirements:

The application must continuously display a thermometer indicating the level of risk.

The prospective customers risk must be updated after each question.

The application must ensure that the user interacts with the thermometer component as little as possible.

You need to evaluate a user interface design for the thermometer component of the application. What should you do?

- A. Design the thermometer component as a movable tool Window that is always displayed as the top most Window.
- B. Design the thermometer component as a part of the main questionnaire form that is always visible.
- C. Design the thermometer component to be displayed as a modal Window when the insurance agent clicks a button.
- D. Design the thermometer component to display a non-modal Window that can be dismissed by the insurance agents when they are ready to ask the next question.

**Answer: B**

14. You create Microsoft Windows-based applications. You create an application that loads bulk weather data into a data warehouse for analysis. The application is used by data-entry technicians. One data-entry technician is visually impaired. The data-entry technicians provide a large flat file as the source of the data, and they typically minimize the application so that they can use other programs while the data is being loaded. The data entry technicians must load as many data files as possible during the course of their work day. The user interface contains a progress bar control that has a text label. The text label indicates the current percentage of progress. You need to provide appropriate status feedback to the user by indicating that the process is complete. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)

- A. Write code to change the title bar text of the application when the process is complete.
- B. Write code to reset the progress bar to its minimum value.

- C. Write code to play a sound that indicates the process is complete.
- D. Write code to update the status bar text to indicate the number of records processed.
- E. Write code to display an animated balloon tip when the process completes.

**Answer: CE**

15. You create Microsoft Windows-based applications. You are enhancing an application for a medical transcription service. Users need to view a long list of medical codes and descriptions. The users displays are set at 800 x 600 resolution. The existing application requires the user to regularly obtain printouts that contain pages of medical codes. These medical codes frequently change. The application must be updated to assist users in entering medical codes into a database. The application must enable the user to view and enter medical codes and descriptions on screen at the same time. You need to evaluate the user environment and recommend a design that best meets the requirements of the users. What should you recommend?

- A. Design a form that contains a ListBoxControl control. Load the medical codes into the ListBoxControl control. Place the ListBoxControl control next to the input controls that accept the medical input.
- B. Design a form that accepts the medical input. Create a context menu for this form to display all the medical codes when the user right-clicks.
- C. Design a form that has a left and a right panel by using a Split Container control. Display the list of medical codes and descriptions on the left panel and all input controls on the right panel.
- D. Design a form that contains a Table Layout control to display the medical codes in a two column table. Next to the Table Layout control display the medical data input controls.

**Answer: C**

16. You create Microsoft Windows-based applications. You participate in the planning phase of an incident tracking tool for technical support analysts.

The incident tracking tool must meet the following requirements:

Technical support analysts must open multiple incidents simultaneously.

The application can run only one instance at a time.

Users must be able to adjust the order and layout of the incident screens.

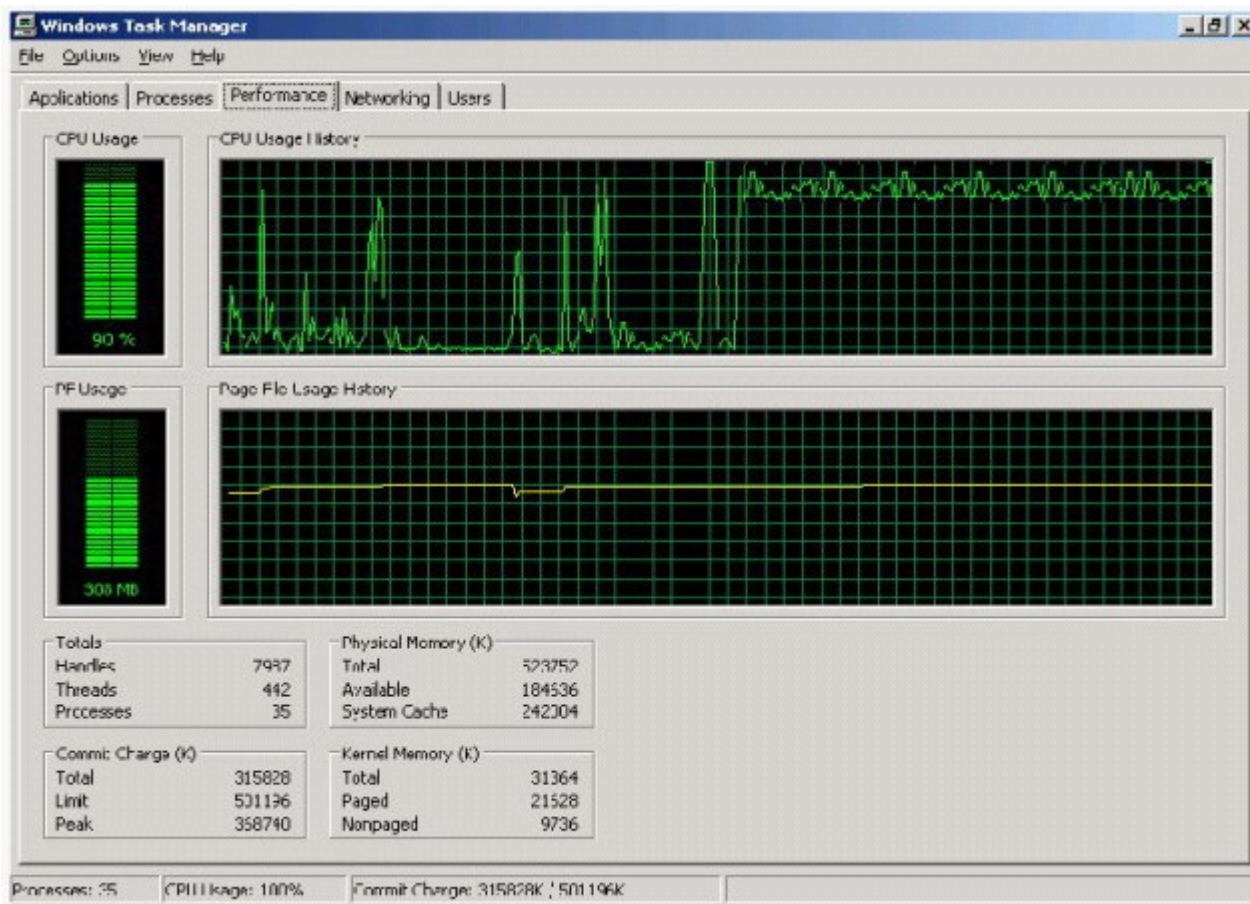
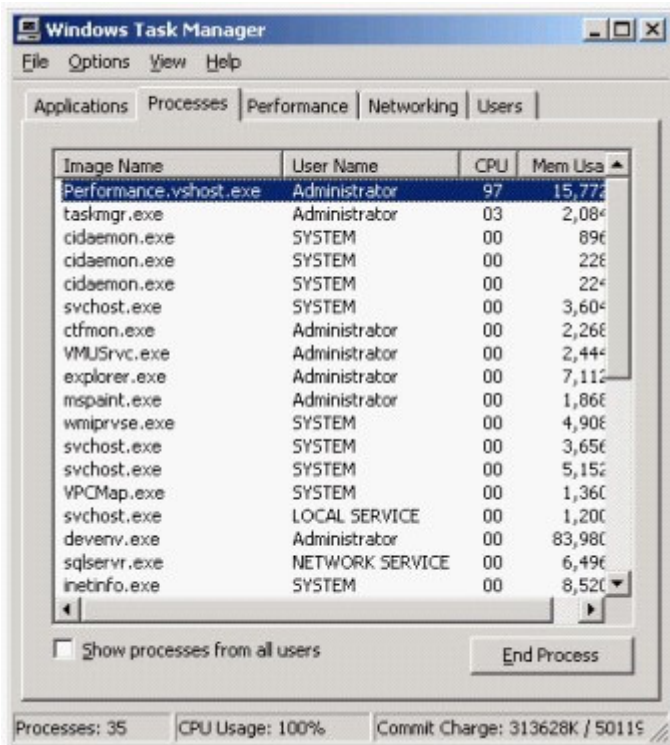
You need to design an application user interface that meets these requirements with the minimum amount

of code. Which action should you perform?

- A. Create a Multiple Document Interface (MDI) application with a menu strip. Utilize the `MdiWindowListItem` property of the menu strip to automatically merge MDI child forms to the Window list.
- B. Create a Single Document Interface application that launches multiple forms. Write code to enable the user to toggle between the active forms.
- C. Create a Multiple Document Interface application with a menu strip. Write code to add child Windows to the menu strip to add MDI child forms to the Window list.
- D. Create a Single Document Interface application. Create a custom-dockable control that can display each support incident.

**Answer:** A

17. You create Microsoft Windows-based applications. You are creating an application that runs statistical sales models. The application will be used by 400 users on the local network. After the application is deployed, users report that the application stops responding. The application takes more than 10 minutes to resume to normal when a specific action is performed. The performance chart is shown in the Performance exhibit, and the task list of the application that is running on a sample computer is shown in the Processes exhibit. (Click the Exhibit button.) You need to evaluate the problem by analyzing the monitored data. What should you conclude?

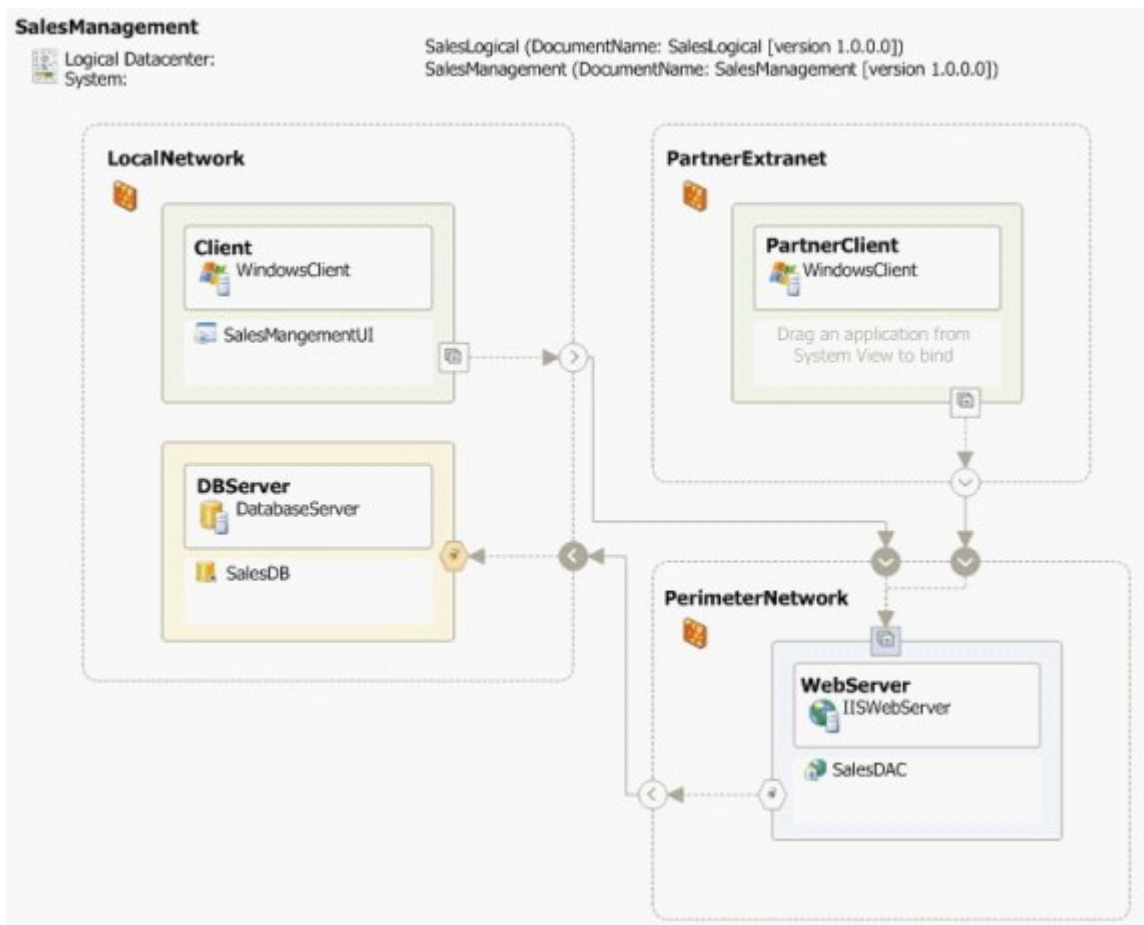


- A. The computer does not have enough memory to perform the task. A memory upgrade is necessary.
- B. The computer does not have enough space in the paging file. The paging file has to be extended.

- C. The application has a memory leak. The application needs to be debugged to find the root cause.
- D. The application consumes too much processor time. The application needs to be debugged to find the root cause.

**Answer: D**

18. You create Microsoft Windows-based applications. You are creating a sales management application. The application will consume Web services to retrieve and save data to a database server. These Web services will be exposed to a partner extranet so that partners can write applications that will access the same data. The deployment diagram for the entire solution is as shown in the following exhibit. (Click the Exhibit button.) After deploying the solution, local users and partners report that they are not able to retrieve any data. You find that the client computers are able to access Web applications and Web services hosted by the Web server. You also find that the local applications are able to access other databases on the database server. You need to troubleshoot the issue. What should you conclude?

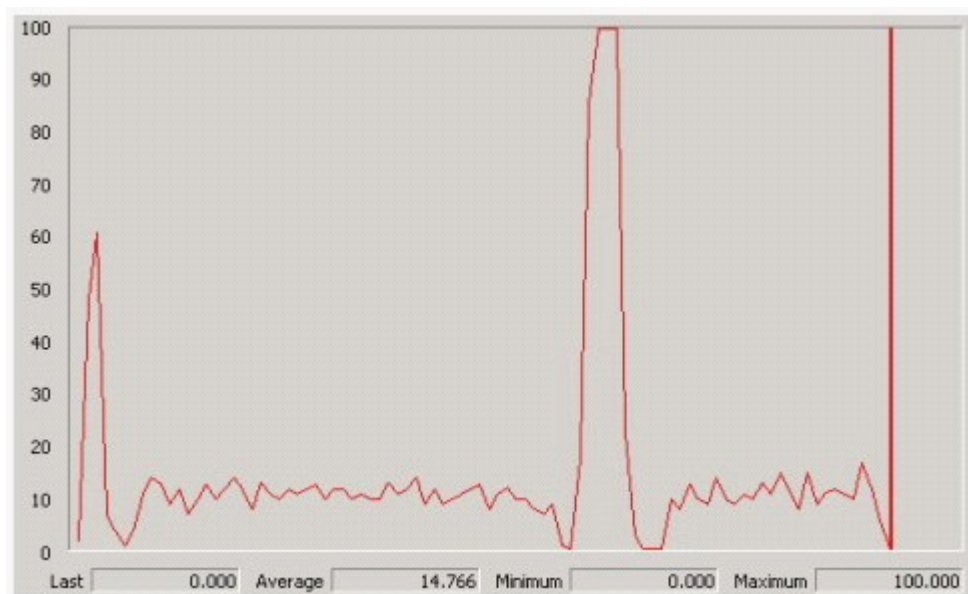


- A. Firewall settings are blocking access from the Web server to the database server.

- B. Firewall settings are blocking access from the client computers to the Web server.
- C. The Web server is offline.
- D. The database server is offline.

**Answer: A**

19. You create Microsoft Windows-based applications. You are creating an application that is used to run statistical sales models. Users run this application from 09:00 to 17:00 hours every day to run their analysis. The application requirements state that the application must not consume more than 20 percent of the processor time. The network administrator in your company sends you a graph displaying the processor usage for the application on a specific machine. The graph shows the processor usage for an entire day. The graph referenced by the network administrator is shown in the exhibit. (Click the Exhibit button.) You need to evaluate the design to find whether the application performance is within the requirements. What should you conclude?



- A. The application performance meets the requirements. The spikes display specific points in time when the application usage is at its peak.
- B. The analysis of the performance chart conclusively indicates that the application has a bug that needs to be fixed.
- C. The analysis of the performance chart is inconclusive. Code profiling must be used to find what is happening with the application.
- D. The analysis of the performance chart is inconclusive. A load test must be used to find what is

happening with the application.

**Answer: C**

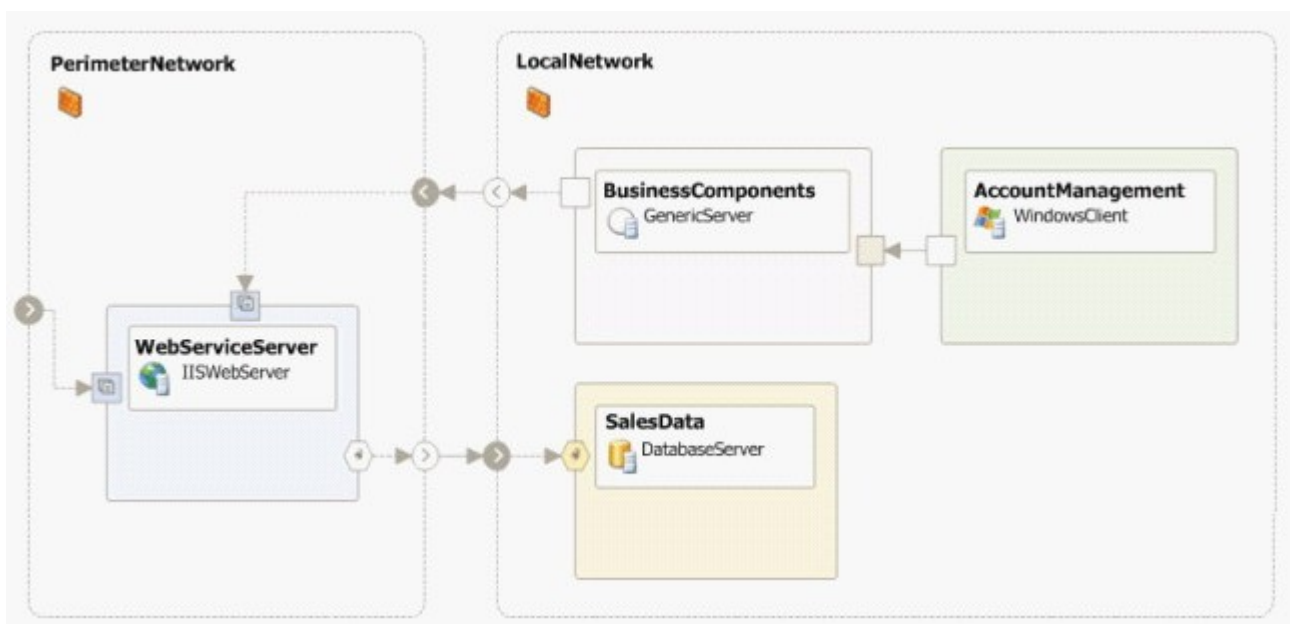
20. You create Microsoft Windows-based applications. You are creating a sales management application. The application does not use message queuing technology. The logical datacenter diagram for the current solution is displayed in the exhibit. (Click the Exhibit button.)

Before deploying the application, you verify the list of operational requirements. You decide to meet the following operational requirements:

Access to the data must be available even if a database server or a Web server is offline.

Access to the database must resume automatically.

You need to decide how to implement the solution. Which two actions should you perform? (Each correct answer presents part of the solution. Choose two.)



- A. Place the business components in a component load-balancing cluster.
- B. Add a database server to the network and place the database in a failover cluster.
- C. Add a Web server to the network and place the Web services in a Network Load Balancing cluster.
- D. Maintain an offline copy of the business components on a backup server.
- E. Maintain an offline copy of the database on a backup server.
- F. Maintain an offline copy of the Web services on a backup server.

**Answer: BC**