Contoso Engineering

Contoso, Inc. is an engineering company that has offices throughout Europe. The company has a main office in London and three branch offices in Amsterdam, Berlin, and Rome.

Existing Environment -

- All the offices have a high-speed connection to the Internet.
- An existing application named SimpleTranReportApp is hosted in the data center of the London office. SimpleTranReportAppis used by customers to place and track orders.
- Currently, data is persisted in a SQL Server 2008 server, hosted in a separate VM
- The IT department currently uses a separate environment to test updates to SimpleTranReportApp.
- Contoso purchases all Microsoft licenses through a Microsoft Enterprise Agreement that includes Software Assurance.

Problem Statements –

- Databases administration for 7TB data is a constant and high demanding task.
- The use of SimpleTranReportApp is unpredictable. At peak times, users often report delays. At other times, many resources for SimpleTranReportApp are underutilized.

Requirements -

- Contoso plans to move most of its production workloads to Azure during the next few years.
- As one of its first projects, the company plans to establish a hybrid identity model, facilitating an upcoming Microsoft Office 365 deployment.
- All R&D operations will remain on-premises.
- Contoso plans to migrate the production and test instances of SimpleTranReportApp to Azure.

Technical Requirements -

- User input must be minimized when provisioning new app instances.
- Whenever possible, existing on-premises licenses must be used to reduce cost.
- Any new deployments to Azure must be redundant in case an Azure region fails.
- Whenever possible, solutions must be deployed to Azure by using platform as a service (PaaS).

Database Requirements -

- Database metrics for the production instance of SimpleTranReportApp, must be available for analysis so that database administrators can optimize the performance settings.
- To avoid disrupting customer access, database downtime must be minimized when databases are migrated.

- Database backups must be retained for a minimum of seven years to meet compliance requirements.
- Native backup and restore
- Cross-database queries and transactions
- Broad security features including Transparent Data Encryption, SQL Audit, Always Encrypted and Dynamic Data Masking
- SQL Agent, DBMail, and Alerts for workload orchestration and improved awareness
- Scenario enablers including Change Data Capture, Service Broker, Transactional Replication, and CLR
- DMVs, XEvents, and Query Store for troubleshooting
- Databases currently run CLR modules with business logic.
- SimpleTranReportApp runs cross-database T-SQL stored procedures as part of the business logic

Security Requirements -

- Contoso identifies the following security requirements:
- Enable full isolation from other tenants without resource sharing
- Promote secure communication over private IP addresses with native VNET integration
- Enable your on-premise identities on cloud instances, through integration with Azure Entra ID
- Company information including policies, templates, and data must be inaccessible to anyone outside the company.
- The testing of SimpleTranReportApp updates must not be visible to anyone outside the company.