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 -  
Network Infrastructure -  
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 -  
  
Planned Changes -  
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 -  
Contoso identifies the following 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 -  
Contoso identifies the following 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 Active Directory and AD Connect​

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.

<https://techcommunity.microsoft.com/t5/microsoft-data-migration-blog/release-azure-sql-migration-extension-for-azure-data-studio-v1-4/ba-p/3969225>

[SKU Recommendation in Azure SQL Migration extension.pptx (sharepoint.com)](https://microsoft.sharepoint.com/:p:/r/teams/Azure-DataAI-FieldSalesSpecialistCommunity/_layouts/15/Doc.aspx?sourcedoc=%7B2E3C6874-D1E9-4B8B-BEA0-FA6BB3992FD6%7D&file=SKU%20Recommendation%20in%20Azure%20SQL%20Migration%20extension.pptx&action=edit&mobileredirect=true&DefaultItemOpen=1&share=IQF0aDwu6dGLS76g-muzmS_WAWBOpmlVB3u6QdjcmHxqNqg)

<https://learn.microsoft.com/en-us/azure/azure-sql/migration-guides/database/sql-server-to-sql-database-guide?view=azuresql>

<https://microsoft.sharepoint.com/:o:/r/teams/CSSSQLTeam/_layouts/15/Doc.aspx?sourcedoc=%7Bc5b23fee-6012-4cfb-8574-27773447721c%7D&action=view&wd=target(SPOT%20entry%2C%20SCL%20ADO%20and%20Release%20Manager%7C31e26885-e79c-4d13-b5d0-0346a59996db%2F)&wdorigin=NavigationUrl>

[About Azure Migrate - Azure Migrate | Microsoft Learn](https://learn.microsoft.com/en-us/azure/migrate/migrate-services-overview)

[Migrate databases by using the Azure SQL Migration extension for Azure Data Studio | Microsoft Learn](https://learn.microsoft.com/en-us/AZURE/dms/migration-using-azure-data-studio?tabs=azure-sql-mi)

[Generally available: Azure SQL Migration extension for Azure Data Studio | Azure updates | Microsoft Azure](https://azure.microsoft.com/en-gb/updates/generally-available-azure-sql-migration-extension-for-azure-data-studio/#:~:text=Generally%20available%3A%20Azure%20SQL%20Migration%20extension%20for,Azure%20Data%20Studio%20Published%20date%3A%2013%20April%2C%202022)

[Azure Database Migration Service documentation | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/)

[What is Azure Database Migration Service? | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/dms-overview)

[Inline Migration through ADS.one (sharepoint.com)](https://microsoft.sharepoint.com/teams/CSSSQLTeam/_layouts/15/Doc.aspx?sourcedoc=%7bc5b23fee-6012-4cfb-8574-27773447721c%7d&action=view&wd=target%28Overview%20-%20Inline%20Migration%20through%20Azure%20Data%20Studio%20%28ADS%5C%29%7Cfcff2e04-1215-4dbc-b94b-55e2f2b8aeb3%2F%29&wdorigin=NavigationUrl)

[Azure SQL migration extension for Azure Data Studio - Azure Data Studio | Microsoft Learn](https://learn.microsoft.com/en-us/azure-data-studio/extensions/azure-sql-migration-extension)

[About Azure Migrate - Azure Migrate | Microsoft Learn](https://learn.microsoft.com/en-us/azure/migrate/migrate-services-overview)

[SQL Server to Azure SQL Database: Migration guide - Azure SQL Database | Microsoft Learn](https://learn.microsoft.com/en-us/azure/azure-sql/migration-guides/database/sql-server-to-sql-database-guide?view=azuresql)

[Transfer logins and passwords between instances - SQL Server | Microsoft Learn](https://learn.microsoft.com/en-us/troubleshoot/sql/database-engine/security/transfer-logins-passwords-between-instances)

[Tutorial: Migrate SQL Server to Azure SQL Managed Instance offline in Azure Data Studio - Azure Database Migration Service | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/tutorial-sql-server-managed-instance-offline-ads)

[Tutorial: Migrate SQL Server online to SQL Managed Instance - Azure Database Migration Service | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/tutorial-sql-server-managed-instance-online)

[Retirement: Azure Database Migration Service (classic) - SQL Server scenarios deprecation | Azure updates | Microsoft Azure](https://azure.microsoft.com/en-us/updates/retirement-azure-database-migration-service-classic-sql-server-scenarios-deprecation/)

[Tutorial: Migrate SQL Server to Azure SQL Managed Instance online by using Azure Data Studio - Azure Database Migration Service | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/tutorial-sql-server-managed-instance-online-ads)

[Migrate databases by using the Azure SQL Migration extension for Azure Data Studio | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/migration-using-azure-data-studio?tabs=azure-sql-mi)

[Custom roles: Online SQL Server to SQL Managed Instance migrations using ADS - Azure Database Migration Service | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/resource-custom-roles-sql-db-managed-instance-ads)

[Azure Database Migration Service documentation | Microsoft Learn](https://learn.microsoft.com/en-us/azure/dms/)