Application Architecture Modernization for Open-Source Stack Solutions

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The offering is focused on leveraging **Azure native services** for achieving maximum cost-effectiveness and flexibility for the system. During the solution design phase, the following aspects are being considered and monitored closely:

- Performance
- Resilience
- Security
- Supportability and future system maintenance

While **Azure API Management service** is a primary choice for an API layer, depending on a target application tech stack the compute layer could be **Azure App Services** or **Azure Spring Cloud**. Both will provide the following benefits:

- Fully managed platform with built-in infrastructure maintenance, security patching, and scaling
- Support of zero-downtime deployments
- Highly secured access via integration with virtual networks and private endpoints

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Multiple database engine options are available in the Azure cloud for OSS applications including fully managed Azure SQL for MySQL or PostgreSQL, which can be running in the provisioned or pooled modes, depending on the specific needs.

Plan

1. Capture business use cases for the solution.

2. Assess readiness and cloud adoption state for the modernization on the client side.

3. Identify the client's needs and readiness for the application architecture modernization.

4. Capture the current state of the architecture and design the solution architecture.

5. Prepare accompanying materials and artifacts.

6. Transfer results to the client.

Assessment Phase: 2 weeks

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Activities

- Identify main stakeholders, project/business goals, time and budget constraints.

- Work with team leads on the client side to focus on current state analysis.

- Gather requirements for use cases, application security, reliability, compliance, and geo-location restrictions.

- Capture and document business processes.

Artifacts

- Catalogs: stakeholders, business goals, technical goals, constraints, etc.

- "As is" state diagram.

- High-level business process flow and use cases.

Solution Architecture Phase: 4 weeks

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Activities

- Iteratively come up with a final solution state for the project implementation.
- Identify skills and knowledge gaps in the client's team and plan a training/staffing session.
- Develop a project transition plan aligned with uninterrupted business processes, current state, and desired architecture.
- Perform security and compliance assessment of the plan and apply updates accordingly.
- Organize the team to run project transition and iteratively deliver transition according to the plan.

Artifacts

- Detailed solution architecture diagram.
- Application architecture (according to the business requirements):
  - Application modules conceptual diagram,
  - Technology stack,
  - Deployment process integration.
- POC plan description: technical and organizational activities with timelines (if requested by the client).
- Infrastructure ongoing cost forecast: capabilities and costs (assigned to date).
- Application modernization project plan with interim coexistence strategy.