SCOPE OF WORK FOR
HIRING OF SERVICES FOR APPLICATION MIGRATION TO PRIVATE CLOUD

This scope of work outlines a plan for the migration, highlighting the processes, phases, and information requirements essential for a seamless, secure, and optimized transition.

Objectives

The primary objectives of this migration are:

1. Transition of local applications to the private cloud while preserving functionality and data integrity.
2. Optimize application performance, scalability, and security within the cloud infrastructure.
3. To establish API calls between application and distributed storage which is secure and role based.

Migration Plan

Phase 1: Infrastructure and Environment Setup

1. **Configuration of Private Cloud**

   - Securely configure the microstack based private cloud with necessary resources and network settings to ensure seamless integration.

2. **Staging Environment Creation**

   - Establish a staging environment within the private cloud test bed to test applications pre-deployment.
   - Implement monitoring tools to ensure system performance is actively observed during migration.

3. **Additional Security Configurations**

   - Validate any specific requirements, such as two-factor authentication or unique access methods, for cloud resources based on protocols including SSL, LDAP integration etc.

Phase 2: Data Migration

1. **Data Backup and Integrity**

   - Full back up of all databases, files, and configurations from the current environment, verified against preferred methods.

2. **Database and File Transfer/ Migration**

   - Securely transfer/ migration databases and media files to the cloud using approved transfer protocols.
   - Validate database integrity post-transfer in alignment with cloud configurations.

3. **Client Data Migration Preferences**

- Any preferred tools or protocols, as suggested by buyer, for secure and efficient data transfer will be considered and implemented.

Phase 3: Application Code and Configuration Migration

1. **Deployment of Application Code**

- Upload and configure application code in the cloud environment, replicating all dependencies as per the existing configuration after successful VA/PT of the application. Clearance of VA/PT will be bidder's responsibility. VA/PT will be undertaken by buyer nominated agency.

2. **Configuration Updates**

- Adjustments to environment variables, API keys, and paths to ensure compatibility with the cloud environment.
- Writing of API's to ensure secure integration of application to HDFS/ or equivalent storage for data read & write

3. **Containerization**

- containerizing applications (e.g., with Docker) for enhanced portability and scalability.

Phase 4: Testing and Validation

1. **Functional Testing**

- Verify application functionality comprehensively in the new environment, ensuring all front-end and back-end components perform as expected.

2. **Performance and Load Testing**

- Conduct performance tests to identify and rectify any potential issues or bottlenecks, with a focus on scalability.

3. **Compliance and Security Validation**

- Conduct a security audit, ensuring alignment security and compliance requirements, including encrypted data transfer and secure access.

4. **User Acceptance Testing (UAT)**

- test the application in the staging environment to verify functionality, performance, and security standards.

Phase 5: Final Deployment and DNS Configuration

1. **Go-Live Scheduling and Cutover Strategy**
2. **DNS and Network Setup**

- Update DNS configurations to direct domain to the cloud server.
- Install SSL/TLS certificates as required for secure HTTPS connections.

3. **Final Testing and Monitoring**

- Post-launch testing to confirm that all functionalities are operating as expected.
- Close monitoring of the application to identify and resolve any immediate post-migration issues.

Phase 6: Post-Migration Support and Optimization

1. **Performance Monitoring and Alerting**

   - Establish performance monitoring with automated alerts for resource usage, downtime, or unusual traffic, ensuring optimal operation.

2. **Backup and Disaster Recovery Setup**

   - Design and implement a regular backup schedule, based on preferred schedule, along with validated recovery processes.

3. **Documentation and Handover**

   - Comprehensive documentation of the new architecture and processes for future reference and internal training.

Note:- <u>Any standard application will have to be connected to web based application and will have to be made cloud compatible (dockerised etc) by bidder</u>.