**Walnut Migration**

I hope this proposal finds you well. As we continue to grow and evolve, it's important for us to assess our infrastructure and technology stack to ensure optimal performance, security, and scalability. After a thorough analysis, we propose a strategic migration of Walnut project from AWS Lightsail to a local server, coupled with a transition from MongoDB to a SQL database. This move is aimed at providing you with greater control, cost efficiency, and flexibility over your hosting environment.

**1. Background:**

Currently, Walnut project is built on the MERN (MongoDB, Express.js, React.js, Node.js) stack, hosted on AWS Lightsail. While this setup has served us well, the proposed migration seeks to address specific needs and goals.

**2. Reasons for Migration:**

**Cost Efficiency:** Hosting on a local server can result in significant cost savings compared to the ongoing expenses associated with AWS Lightsail.

**Greater Control:** A local server allows for increased control over hardware, software, and security configurations, aligning with your specific business requirements.

**Scalability and Performance:** The local server environment can be fine-tuned to meet the exact performance and scalability demands of your project.

**3. Technology Stack Transition:**

**Database Transition:** Moving from MongoDB to a SQL database (e.g., MySQL or PostgreSQL) will facilitate better data organization, improved query capabilities, and enhanced support for complex transactions.

**4. Proposed Plan:**

**Infrastructure Setup:**

Set up a dedicated local server environment with specifications tailored to your project's requirements.

**Database Migration:**

Develop a robust strategy for transitioning data from MongoDB to the chosen SQL database.

**Application Code Modification:**

Adjust the application codebase to seamlessly integrate with the new SQL database.

**Testing and Quality Assurance:**

Rigorous testing of the migrated application to ensure data integrity, security, and optimal performance.

**Deployment and Monitoring:**

Implement a seamless deployment process and establish monitoring tools to ensure continuous uptime and performance optimization.

**5. Expected Benefits:**

**Enhanced Control:** Full control over the server environment, enabling tailored configurations to meet specific business needs.

**Improved Performance:** Optimizing the local server environment can result in improved application performance and responsiveness.

**6. Timeline:**

|  |  |
| --- | --- |
| **Name** | **Time** |
| Re-Write API Query’s (140 API’s) | 15-20 Days |
| Data Migrate from MongoDB to SQL | 2 days |
| Deploy to local Server | 2 days |

**7. Estimated Costs:**

A detailed breakdown of estimated costs for the migration process, including server setup, database transition, code modification, and testing.

**8. Next Steps:**

We propose scheduling a meeting to discuss this migration plan in detail. Our team is committed to ensuring a smooth transition with minimal disruption to your ongoing operations.