

Monthly Analysis and Architectural Explanation

1) Monthly Analysis

Azure Resource		Service Tire	Cost/month
Postgres Database (single server)		Basic, Gen 5, 2 vCore(s) (including 100Gb of additional backup storage)	US \$60.14
Web app (App Service)		Basic Tier, B1 (1 Core(s), 1.75 GB RAM, 10 GB Storage OS → Linux Region → east us	US \$12.41
Sendgrid		100 Free messages per month	US \$ 0.00
Function App		Consumption plan, Region→ central US (The first 400,000 GB/s of execution and 1,000,000 executions are free.)	US \$ 0.00
Service Bus		Standard Tier US\$0.05 per million operations	US \$9.81
Storage Account		Standard/Hot StorageV2 (general purpose v2) Region→ Central US	US \$ 19.44
	Total		US \$101.81

Estimated monthly cost = US \$ 101.81

2) Architecture Explanation

In migrating the pre-existing app to azure cloud, I choose to go with web App and Azure Function to handle the frontend and backend respectively. Because both the front and backend are deployed to separate cloud-base solutions, this will provide for a timely, fast and easier app upgrade/maintenance in event of application bugs, and will also address scalability issue when compared to the on-premise solution thereby eliminating the HTTP timeout faced by the existing architecture.

Drawbacks

One main drawback of the existing architecture (on-premise) is Cost management. In this kind of setting, we take care of the application infrastructure, systems upgrade/update, server configuration, which make it very time consuming and cost inefficient. And also we do need to worry about application Backup in case of any eventualities, whereas with the current architecture (cloud) we only have to worry about improving the application logic.

Advantages of:

1) Azure Function

- * It provides easier application codebase design/maintenance by use of microservices architecture.
- * Simple and straightforward app development and deployment process.
- * Cost efficient.
- * Auto scalability

2) App Service

- * Improved scalability options (Vertical and Horizontal)
- * Better cost management
- * Easier configuration procedure.