Enterprise Architecture

DEF-Mobile only Bank

Architecture Vision

1. Transform the current enterprise architecture (based on SOA) to a more dynamic, flexible, scalable, resilient, support to future business growth.
2. Reduce the heavy weight components in the business value chain, more fine grained components so that it will be easier to replace and combine those components.
3. Develop the micro services architecture capability in the organization
4. Equip the enterprise to modernize the legacy systems with new and current trends in the industry.

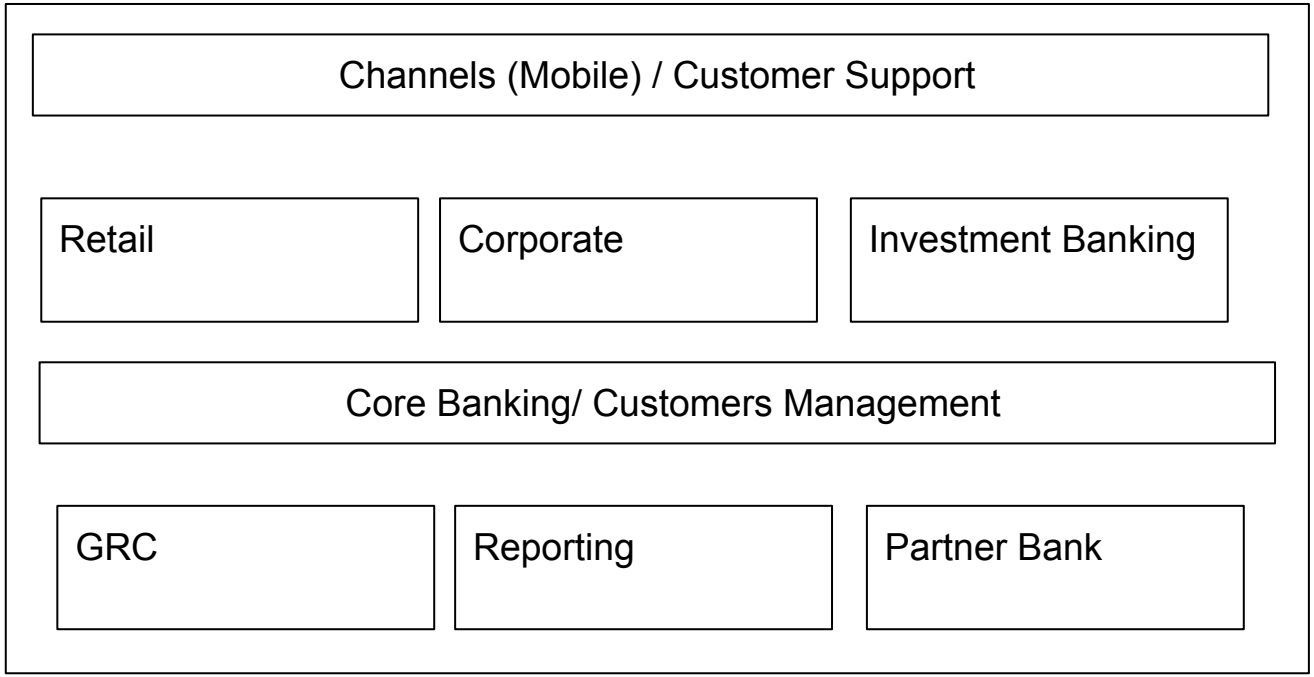
Business Architecture

Business Goals & Business Drivers

1. To be able to support the business growth by adding new customers, new products
2. Shall be able to expand to other 5 countries
3. Shall be able to offer the mobile bank services to other banks/firms

Activities:

1. Identify the new positions required to manage the business growth, as expanding to other countries, planning to offer services to other banks
2. Perform reorganization/consolidation of departments if required
3. Setup country heads and sales officers for coordinating the new offerings to other mobile banks.
4. Plan the budget and time for this architecture transformation/upgradation.
5. Establish different portfolios or projects and designate the resources and hierarchies, communication plans and stakeholder planning etc.



Above picture represents a classic example of how a bank may function as different departments, there will not be any change in the way organization is setup and different departments coordination except for the upstream and downstream systems shall be identified and consider those dependencies in the Architecture migration planning, and prioritize the systems depends on the business urgency and importance.

Data Architecture

Data Capturing

Customer/ Accounts

Products

Payments

Images/Files

Reports Generation

Exchange with Third party

ETL

Data Analytics

Processing and behaviour analysis

Data warehousing

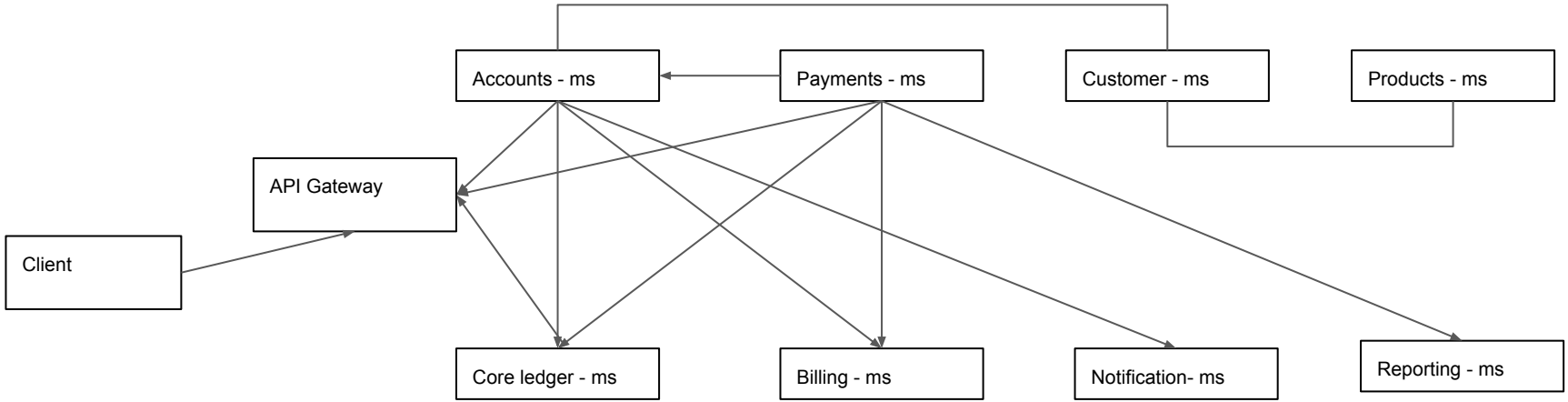
Big Data

Data Archival

Storage as per future need.

Current data flows/established processes will not have much impact except there will be some consolidations/segregation of data happens depends on the microservice scope of functionality. Each microservice will have its own database schema or sharable schema between microservices depends on the data and application coupling.

Microservices Integration - Synch Integration using REST API

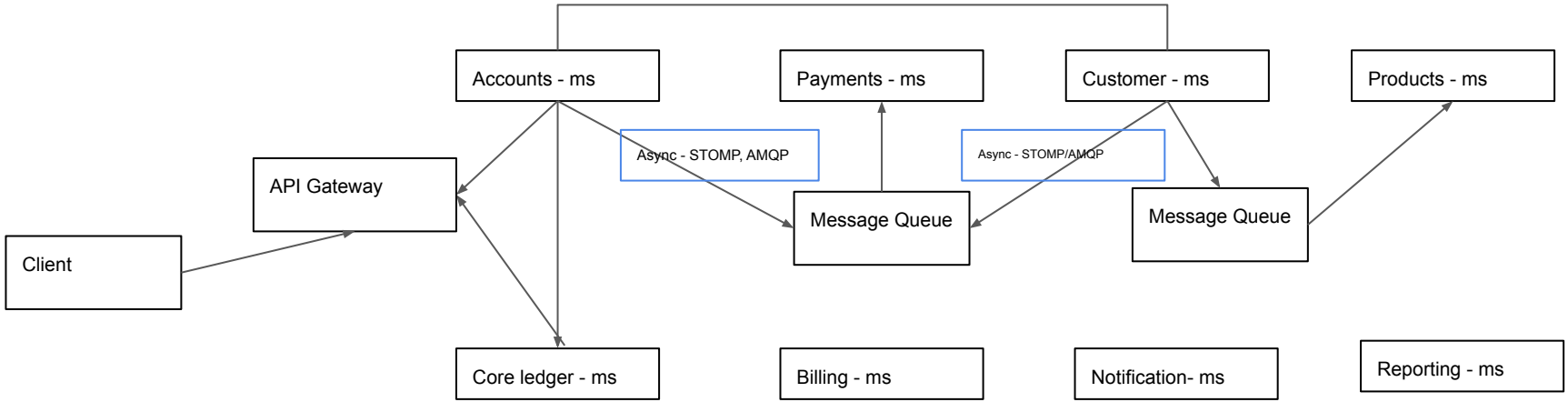


Each box represents a microservice (for ex: customers, accounts, payments etc). It has its own run time, database. If any information required from other modules, it shall consult the respective microservice. These micro services can be identified via service registry or api catalog. Communication between these services will happen based on OAuth tokens.

Application gateway will do the authentication, authorization, load balancing, monetize API,analytics, monitoring, aggregating,
Container Orchestration Engine such as Kubernetes shall be used to run these containers, and service mesh (service choreography/orchestration) can also be established for better management of the services.

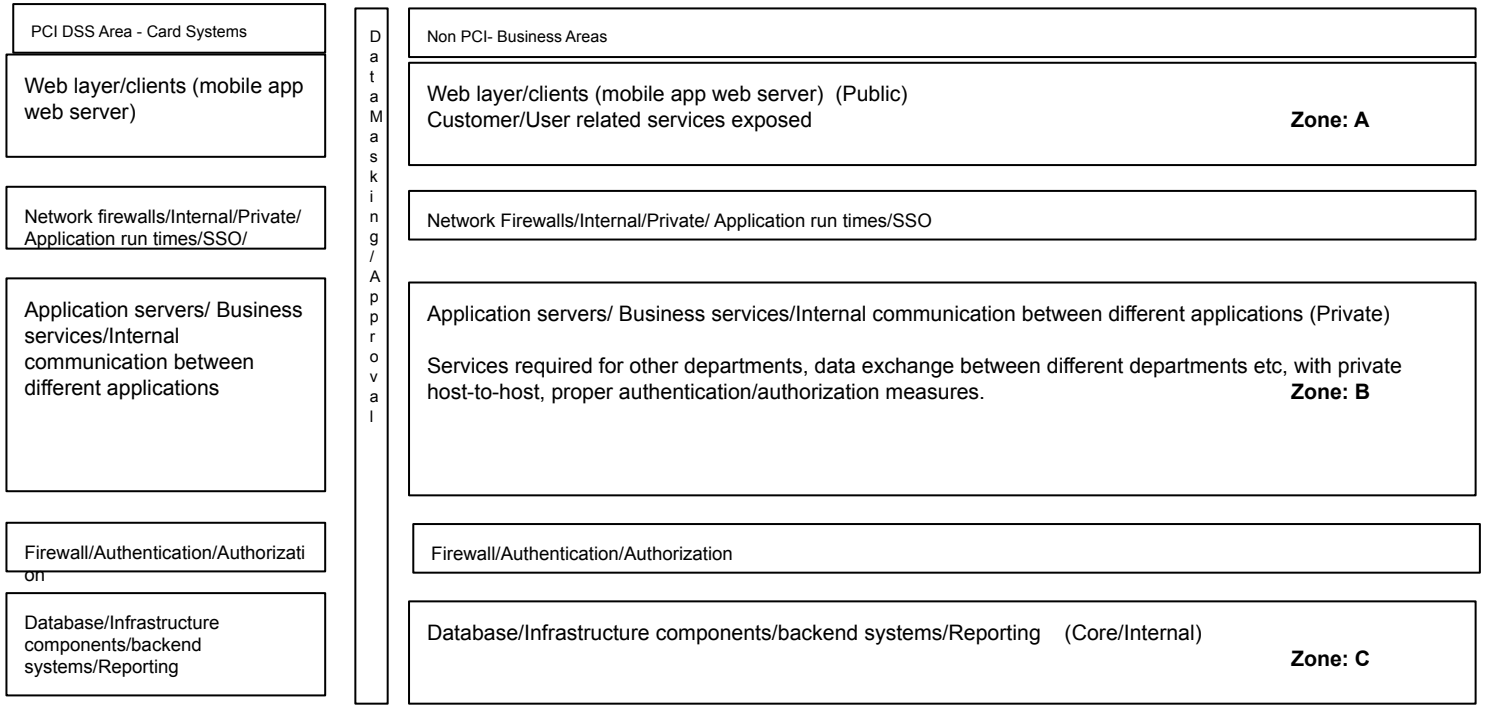
Data formats such as json, avro, protobufs can be supported.

Microservices Integration - Async Integration using MQ



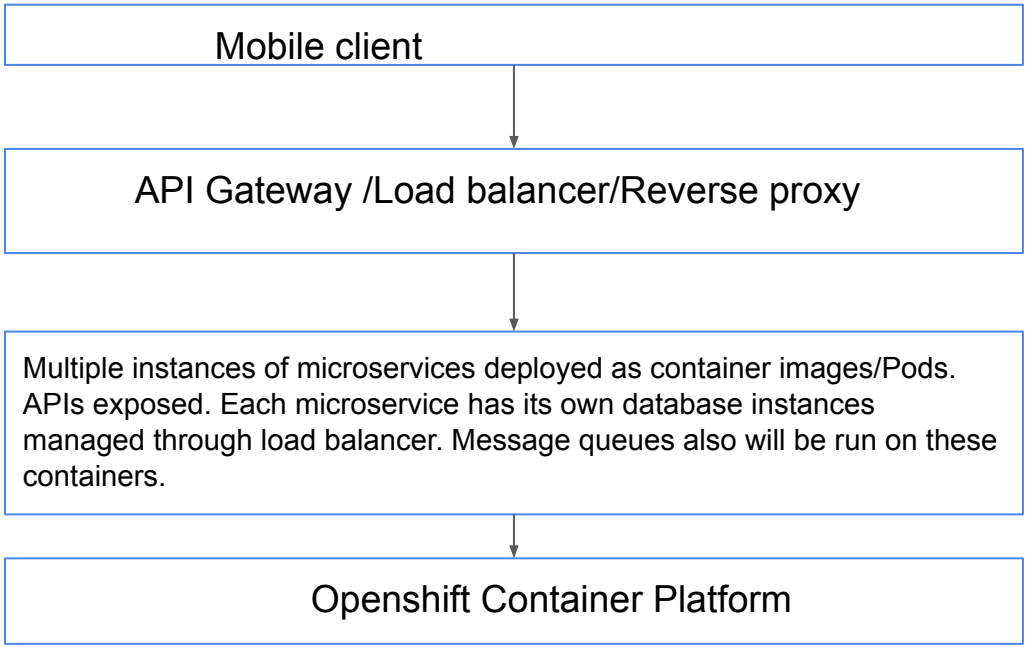
To make it scalable, introducing the asynch communication between services using any message queue technology or apache kafka can also be used for this purpose.

Technology Architecture (Network Infrastructure)



Note: There will be certain systems to be replaced in zone A, B and C.

Deployment View



GDPR & PII data management

1. Label the data items which are person identifiable information while capturing data requirements. Store these data in an encrypted format in database.
2. Whenever this data need to be deleted due to regulation as such, provide business services to operate on this data, remove from the system.
3. Implement GDPR consent system using OAuth2 and different scopes defined depends on the data item.
4. Make sure consenting from user is considered for all the forms/screens of data capture. Have these consents or scopes managed to the fine grained level.
5. Provide services/AP to download user’s data and to provide the reports on how their data being used.
6. Provide services/API to user to request to delete the information from our system when they are ending the association with our business. Clearly state to the user, when there is any data breach (as appicable) or any data share with other third party systems.