**Reference Data Management**

**Problem Statement:**

A company has grown inorganically by taking over its competitors. It wants to do financial reporting at group level and wants to report its financial metrics for various branch levels eg. National branches, regional branches, Sub regional branches, county level, city level. Its various constituent companies however have different levels of branch hierarchy and call various branch levels by different names. For example : one company may have 5 different levels of branches starting from Zonal, region, state, City, district level branches, while another just has county, city and local branches Our utility needs to create a harmonized reference hierarchy and map the various different branch levels of the various companies to one of the levels of master hierarchy. This will allow for group level reporting of financial numbers for various branch levels.

**Abstract of Solution:**

A MicroService to handle Reference Data Management.

The utility will create a harmonized reference hierarchy and map the various different branch levels of the various companies to one of the levels of master hierarchy.

One of the advantages is that it will allow for group level reporting of financial numbers for various branch levels.

Also it will enable reporting of Digital Solutions like and IoT applications to drill down and roll up for their reports as per their needs in a flexible way.

**Solution Approach:**

The solution will be built as a MicroService which will act as a centralized service for Reference Data Mapping, User authorisation and Customer and Branch management.

It will be built as RESTFul services, backed by Serverless architecture and MicroService Architecture. It will be a scalable solution, adding to the scalability will be the flexibility of it.

The complete solution will be on AWS infra.

Having RESTFul services will enable it to be plugged and play by different applications. Multiple different applications will be able to consume the services.

This will be based on ABAC (Attribute Based Access Control) principles.

**Business Impact:**

A flexible centralized Reference Data Management solution will enable all digital application to simply consume the services to enable the data management offloading the initial work needed to build one.

Being centralized any other MicroService would be able to use it and ensure all the other solution are in sync. And there is only a single source of truth that can be consumed by Multiple MicroServices or SOA services.

This will allow for group level reporting of financial numbers for various branch levels.

This will be based on ABAC (Attribute Based Access Control) principles. Hence will allow flexibility in its use and fine grain Access Control.

Almost all the digital solutions will be needing a similar way to define Access Control and reporting. Having a framework and a MicroServices will enable the business to not spend time in reinventing the wheel and use the MicroService to enable Access Control in a very flexible manner.

**Design Architecture:**

The solution will be implemented on ABAC (Attributes Based Access Control) principles and will provide fine grain access control. Will have capabilities for Authorisation.

RESTFul endpoints will be deployed and published using AWS API Gateway. The core of the logic will run on AWS Lambda functions on Serverless architecture. Database will be an instance of MySQL on AWS RDS.

