Architecture and design choices made:

Decision : Build the application using reference of Clean Architecture pattern. This architecture pattern has a mechanism to segregate logic related to core business (domain), interactions with users (Application), presentation (UI), data storage(DB, infrastructure),etc into separate logical layers. The dependencies point from unstable layers towards more stable layers, making the software more resilient to future changes.

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Moreover, for this particular Insurance API, I have tried to use the concept of the “Service layer” pattern as described in “Patterns of Enterprise Application Architecture” book by Martin Fowler.

A diagram of a service layer

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Reason for clean architecture :

Clean architecture pattern facilitates modularization of our application, promoting specifically the SRP and DIP from SOLID. Modules that change for same reason are encapsulated into a separate layer. Also, outer layers depend on the next inner layer only, and inner layers know nothing about outer layers. DIP is followed especially by the Infrastructure and Application layers, since infrastructure layer implements interfaces defined in Application layer, making the former interchangeable without affecting the latter.

Reason for using the concept of Service layer pattern:

The Service layer pattern is well-suited when the business logic of an application can be split into domain logic (purely related to domain) and application logic (workflow logic). In such a case, Service layer defines an application’s boundary and set of available operations for all clients. It encapsulates the application's business logic, controlling transactions and coordination of responses behind its operations. (References - <https://martinfowler.com/eaaCatalog/serviceLayer.html> and <https://medium.com/javarevisited/patterns-of-enterprise-application-architecture-organizing-domain-logic-50efd9ea3f39>)

In general, I also used the following Knowledge plot for making design decisions :

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(Reference – Talk by Sandy Metz - https://www.youtube.com/watch?v=xi3DClfGuqQ&t=1487s)