Text

Description automatically generated with low confidence

postgressql

REST API

Kafka Topic

Location Processor microservice

Location microservice

Connection microservice

Person microservice

gRPC

REST API

Replace with devices.

Web interface

**gRPC solution for location event microservices**

Justification: Since location will be heavily use for tracking the user coordinates , this portion need to be in efficiently structure as it might get a lot of incoming data at any instance of time.

Secondarily gRPC is chosen is because of strict type enforcement, as location is the most crucial piece . Message pass into the architecture is required to be checked and ensure it doesn’t break or give unexpected outcome. gRPC using protobuf able enforce strict type of data type pass into Udaconnect system.

**Efficiency** : gRPC uses HTTP/2 protocol that improves the overall security and performance.

**Type enforcement** : gRPC does have type enforcement to ensure the value is valid as protobuf message must have correct type.

Connection is to connect everything from the person location to date and time and person\_id. Location microservice is only to gather the topic link to location location processor microservice, therefore for location processor microservice there will be more than 1 technology use (gPRC and kafka is used in location registry microservice).