

CAR Spartan Design Document (WIP)

BRD - Initiatives CAR (Spartan)

Introduction

The creation of Initiatives CAR is currently a mostly offline process with Excel sheets for NA and a limited functionality Excel macro for EMEA. This process is not very scalable, collaborative, or consistent, and to inefficiencies in the process of creating a CAR form. CAR Spartan aims to bring this process online to EinSight so the process and data is centralized.

Requirements

- **Clarify with PM:** UI will either save per individually per tab/workflow or the UI will save entire project state at once
 - We will need to come up with validation workflow if user wants to persist data before all valid entries are populated
 - This could also potentially change our state management approach and require a global state/context provider solution (Redux, Zustand, etc)
- UI requires different project intake forms and tabs depending on whether the project is NA or EMEA
 - Project input forms will be unique with unique dropdown/lookup values, and some tabs/workflows may also change
- UI Spreadsheet Editor
 - Needs copy/paste, multi-select, fill handler
 - Needs real-time uptimes to cells based on other cell values (basically replicate Excel formulas but the formula is fixed)
 - Needs dropdowns that support above features
- Data needs to have some history/versioning for storage but this will not be exposed to the UI
 - New UI and API should be able to be compatible with old data, or backfill/data migration is needed
 - A quick alternative (check with PM) is to simply invalidate older data and do not load it to avoid data migration/backward compatibility work
- Need granular authorization system
 - Admin group that mostly consists of GCP + a few other members
 - Projects are only visible to admin/project requestor, but additional access can be granted
- Long term, application should be extensible enough to integrate with other tools to expand/extend Initiatives workflow (like integration with Deadpool)

Non-functional Requirements

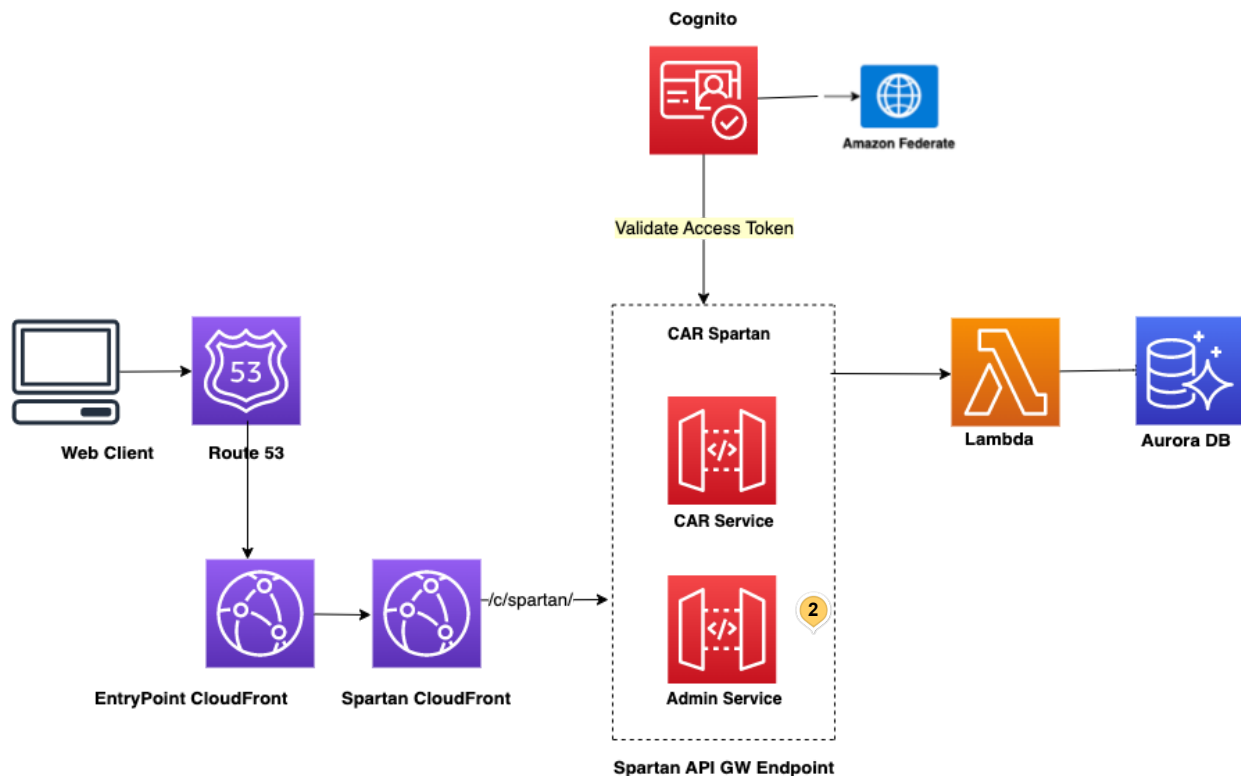
- ☐ Consider rough TPS estimates
- ☐ Consider latency requires
- ☐ Consider scaling requirements
- ☐ Consider business level metrics
- ☐ Unit test coverage requirements? Reach consensus between team (SDE, QAE, TPM, etc)
- ☐ Need to consider ability

Out of Scope

- DB Design has historically been taken care of by DE (see High level DB Design) due to existing tables and downstream requirements that require some backwards compatibility
 - However, as a new project there is opportunity to improve the design if needed (such as database choice, schema, etc)
 - Data versioning/history is IN SCOPE, we should make a choice to retain or break compatibility with new UI/API/schema changes
- The DB table from EMEA macro does not need to directly used for CAR Spartan (nor do we need macro compatibility)
- While Initiatives CAR may be the first applications to utilize the new EinSight Multi-API Architecture Design Doc, this design doc will not necessarily cover the specifics of that implementation
- No Data Migration (NA macros were offline and never had data, EMEA macro data is not being migrated as confirmed by PM)

Architecture

Frontend client to API GW is abstracted. See EinSight Multi-API Architecture Design Doc

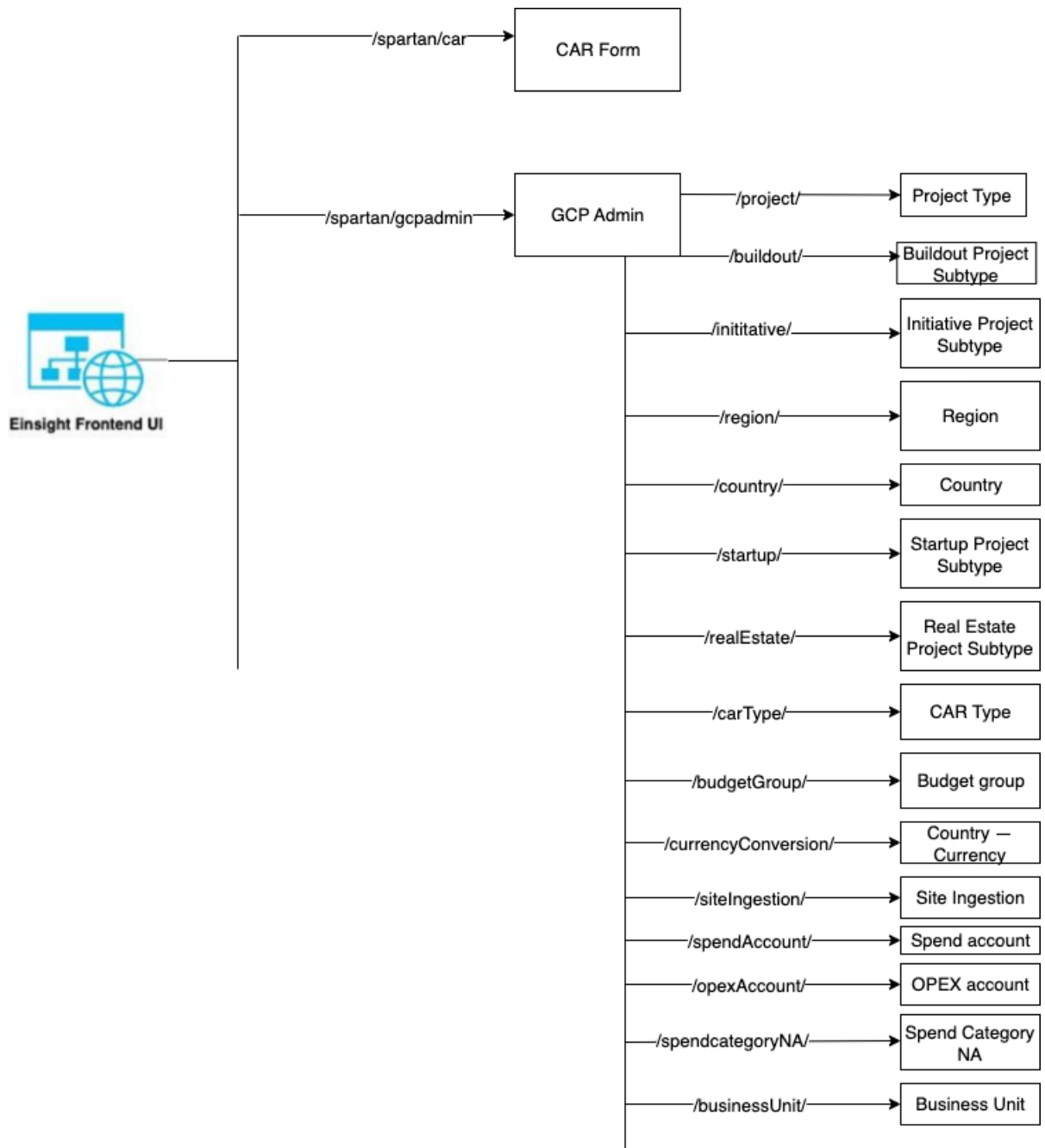


PERMISSIONS ARCHITECTURE

- Create team for all of EinSight
 - Create LDAP group within that adds GCP team by rule
 - LDAP groups are application-based
 - This team has access to override lookup tables
 - Use override to add non-GCP team as admins

- Need to deep dive on how this connects to Bindle locks
- Migrating existing permissions groups (teams/LDAP)
- Alternative is to create one team

API Design



- ☐ WIP for more services based on clarification of queries

DB Design

Forms for GCP Table

LOOKUP TABLES OR GCP TO ADD/EDIT

Initiative Project Subtype
Automation
Safety
Security
D&C
MOD
Sustainability
IT
C>Returns
Other

Region
North America
EU

Country
US
AE
AT
BE
CZ
DE
EG
ES
FR
IE
IT
NL
PL
PT
SA
SE
SK
TR
UK
VT
MX
CA
BR
JP
AU
CL

Project Type
Buildout
Initiative
Startup
Real Estate

Buildout Project Subtype
Expansion
Conversion
Storage Densification
Throughput Increase

Real Estate Project SubType
Self- Funding
Developer-led
CRA
Car Parking
Lease Renewal
DD
Pre-con
SPP

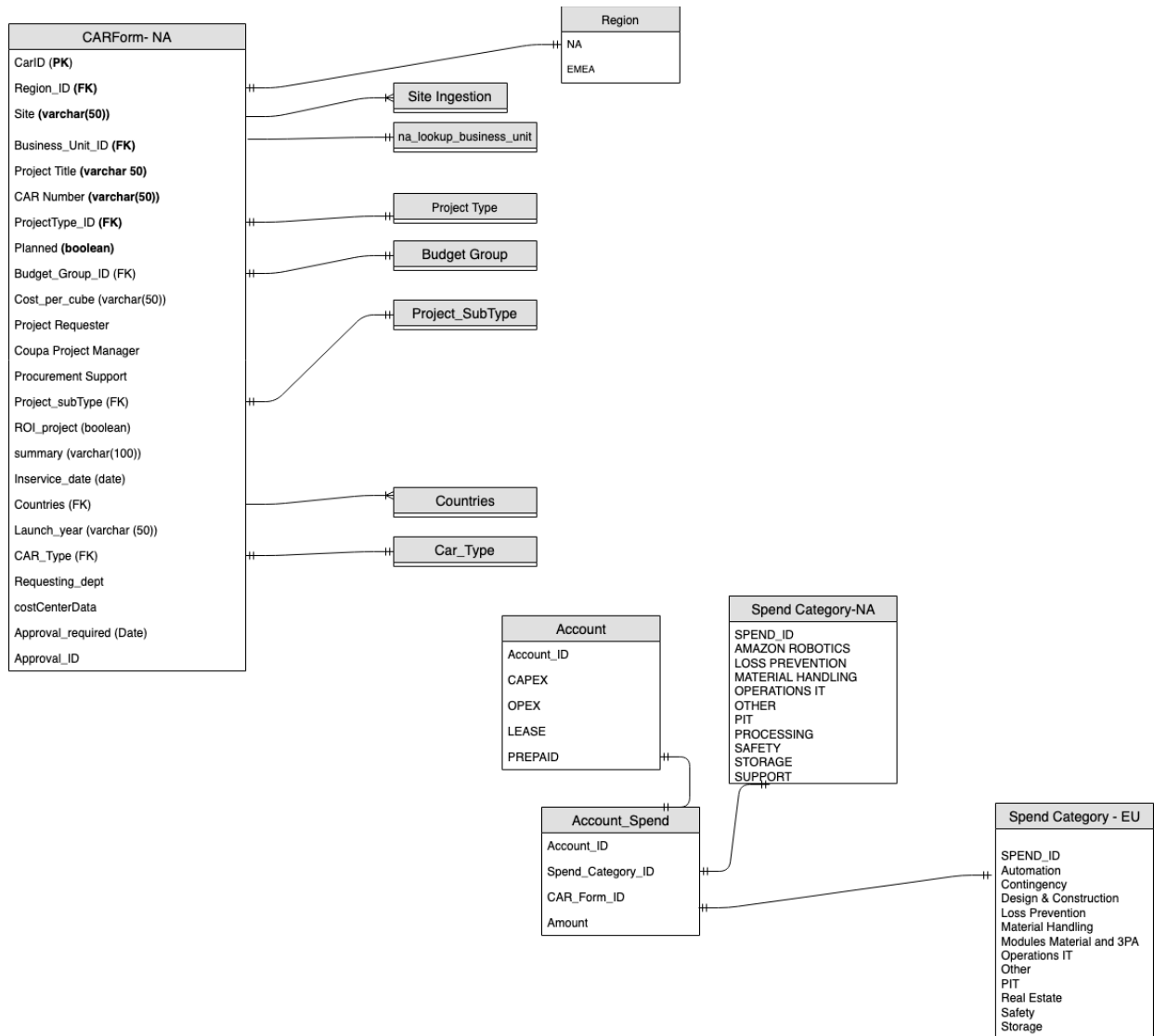
CAR Type
New CAR Request
Supplemental – New / Change in
Supplemental – No Change in Scr
CAR Reallocation Transfer
Transfer between sites or CARs
Opex/Capex Transfer

Spend Category EU
Automation
Contingency
Design & Construction
Loss Prevention
Material Handling
Modules Material and 3PA
Operations IT
Other
PIT
Real Estate
Safety
Storage

Budget Group
ACES
AMXL
AMZL
ATS
Automation
Engineering Services
IT
MOD
Not Planned
Real Estate
Regional CAR
RME
Safety
Security
Sustainability

DB DATA RELATIONSHIP DIAGARM

1. CAR Form Database



2. Cost Detail

