CREATING A FRAMEWORK FOR
THE DIGITALIZATION OF
LOGISTICS CORRIDOR BETWEEN
THE SOUTH CAUCASUS AND
CENTRAL ASIA

PLATFORM OF PLATFORMS LOW FIDELITY PROTOTYPE



Victor Aragones
Senior Transport Economist
Aktau, Kazakhstan

October 21, 2021

This report has been co-funded by the Mobility and Logistics Multidonor Trust Fund (MOLO), managed by the World Bank Group and supported by the Governments of Switzerland (SECO), Germany (BMZ), and Austria (BMF).

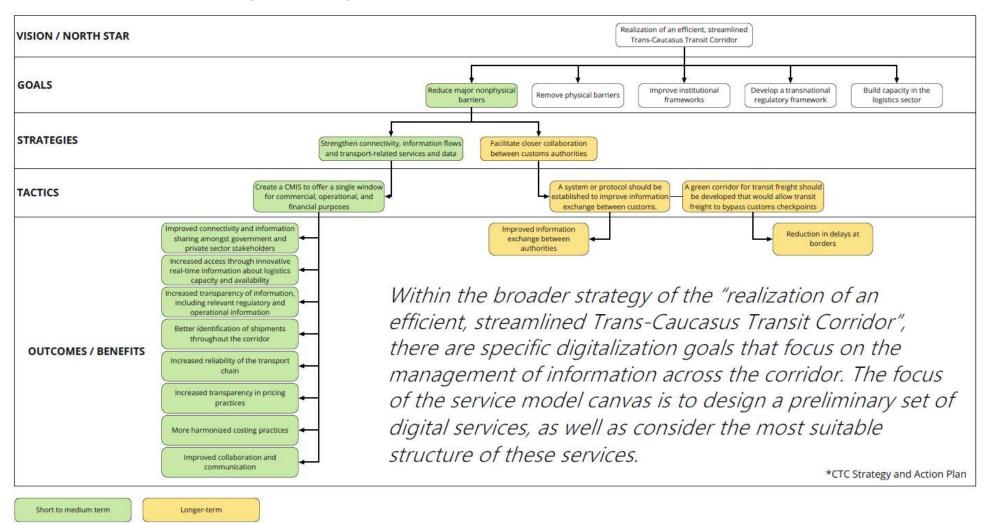




The technical Assistance

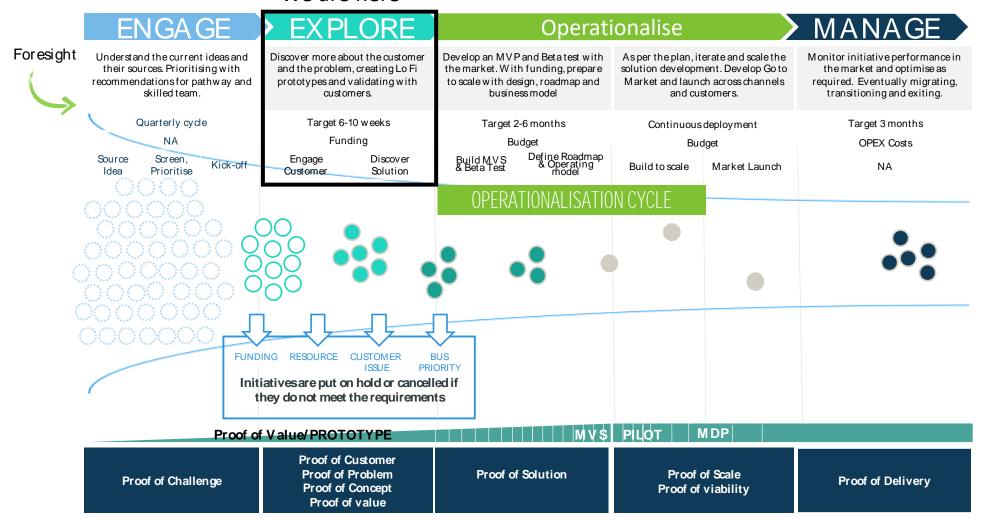
The World Bank's proposed "Strategy and Action Plan for the CTC" highlighted that the digitalization of this corridor segment would offer many benefits. Corridor digitalization could offer a single window for commercial, operational, and financial purposes. The end-to-end data enabled by digitalization can also help to target continuous improvement in logistics efficiency of the corridor.

This is one of many issues along the corridor, albeit a very important one!



The Innovation Approach

We are here



Moving from Prototype to Proof-of-Concept

- A prototype is an activity that is designed to provide an understanding of how a concept might work.
- Prototypes are designs that are implemented for a short time, adjusted through a few iterations and improved upon.
- In Design we use prototypes to learn
- Through many prototypes, we eventually prove the concept
- The purpose of a prototype is to put something into play and look at its performance. You need to have some success with a prototype in order to know what parts of it are worth building upon.

A proof of concept is the first attempt to make a working model that might be real-world usable.

- Whilst a design prototype does not focus on creating the actual technology and integrations, a POC now shifts focus to working with the possible technologies and solutions that can be integrated to prove the solution.
- The solution can be realised through commercial off the shelf or custom developed options.

SOLUTION CONCEPTS

SOLUTION **PROTOTYPES**

DESIGN **SPRINT 4 WEEKS**

VALIDATION **MEETINGS**

PROOF OF CONCEPT

POC





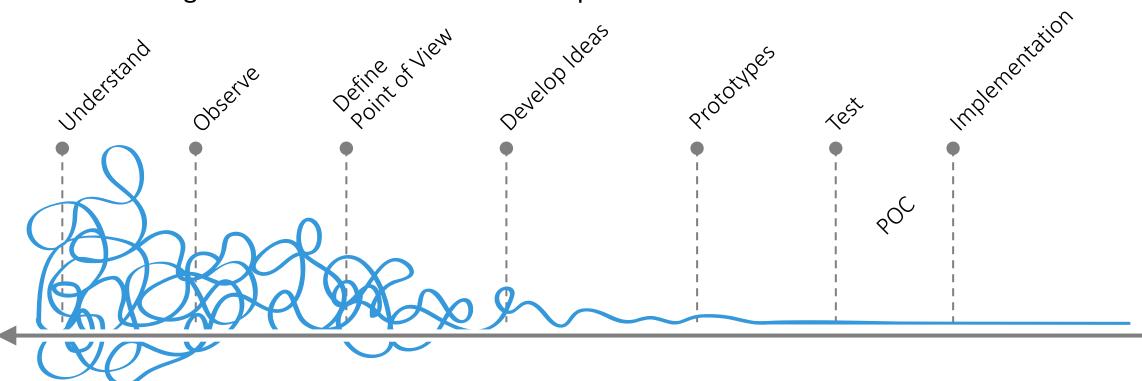


HIGH FIDELITY



Different Approaches

- The design approach allows us to continually experiment and test ideas with stakeholder across the business, refining, pausing, pivoting and persevering until the right solution resonates with all stakeholders.
- This moves us away from developing long abstract documents, to working with tangible and actionable strategic options through prototypes.
- It allows stakeholders to look at, feel and play with possible solutions to get a more accurate degree of feedback for continual improvement.



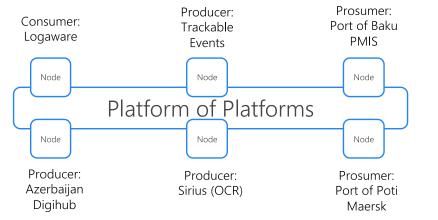
The purpose of today

- We have developed a concept called the "Platform-ofplatforms".
- We have created an initial design prototype to give stakeholders a more tangible view of what this platform-ofplatforms concept looks like.
- We are looking for:
 - Validation and feedback; and
 - Expression of interest from partners who are interested in being involved in the next stage POC

The Platform-of-Platforms Concept

- The platform-of-platforms concept has the following key value propositions:
- 1. It does not mandate a platform for the members but instead allows them to pursue and implement their own digital transformations and simply "plug-into" the platform-of-platforms to produce and consume services and data.
- 2. The concept allows members to add and share services and data using a multi-sided platform model. This helps reduce duplication and facilitates a build and share once principle where all members get the benefit of services created by other members.
- 3. Supports the network effect for scalability Future members, routes and services can be "bolted" onto the solution, each new addition increases the value of the platform and the services that are provided.

CHANNELS CHALLENGES exchanges across language, geographic and organizational boundaries Access and leverage services that other members provide without building them Low levels of technology maturity o and desktop channels myself (OCR and translation Consulting for onboarding and OCR challenges for language Help desk for technica agencies Operators – those members who handle the cargo (railway, shipping, Regional free trade / green zone COMPETITORS USAGE ACTORS KEY RESOURCES COSTS · Suppliers - finance, weather Staff costs
Help Desk
If support
Legal and regulatory Other platform providers like · DBA Group Security Management skills and Consulting support Cloud Hosting services Payment to data/serviced pro IBM Cloud Private sector companies MVP Development Government monopolies
 Other transport and logistics IT infrastructure and software development
 Data centres (If applicable)
 License fees Member's technology platform FIRST One-time registration / integration and setup fees THEN Monthly / annual volume based subscription fee
THEN post volume pay-per-use transaction fee (pay per service rec
AND pay data and service providers a pay-per-use transaction fee





Prototype Version 1

Low Fidelity Prototype of the Platform-of-Platforms Concept

Persona: Francis the Freight Forwarder

Perspective: Francis subscribes to another platform to manage her customers and logistics operations. Will subscribing to the platform-of-platforms allow her to get more accurate cargo tracking information from operators and carriers across the middle corridor?



Francis uses another platform to provide services to his clients.

Hi I am Francis. I am a freight forwarder. I subscribe to a logistics platform (For this Example we will call it EDGE) that helps me connect with logistics companies, cargo importers and exporters. This platform helps me send transport requests, receive transport offers and control the logistics operations.

The challenge I have is the middle corridor route has many different operators, carriers and providers of services. Not all of them are part of the same platform I use, so pricing, routing and tracking data is not always consistent of available for me to service my clients more effectively.

I am also concerned about sharing my data with competitors across the corridor who can then outbid me.



What if: you could continue to use your platform of choice, as well as seamlessly connect to data and services across the whole of the transport corridor, and get accurate location and costing for your platform and clients?



Value proposition:

Subscribers to continue using the platforms they are comfortable with, but securely and seamlessly connect to a broader network where they can get access to more accurate shipping and cargo information and services



Benefits/Outcome:

Shipper will have the ability to connect seamlessly to the platform of Platforms, share content as well as view content to enhance the efficiency of their services and promote more transparency across their clients and partners.



Question: Would other vendors find value in "subscribing" to the pop to increase their value proposition? How would members feel about a permission-based model for the sharing of data into the network?



Francis the Freight Forwarder Workflow

Create and Manage Shipment Requests

Receive Reponses and Offers

Negotiate Contract Terms Manage Shipping Operations

- Automation of shipment requests occurs only with other subscribers of the EDGE solution.
- Other carriers and operators across the middle corridor use and manage their own platform solutions for business operations.
- Most of the communication between these different entities is in email form with low security, reliability and accuracy.
- Whilst the EDGE solution manages requests and offers automatically, this occurs only within that solution and not across the diversity of solutions and platforms across the corridor.
- Other non-edge offers come in via email resulting in re-entry of information and prone to errors

- Contracts generated as PDF or SMGS and other standards
- These are emailed out to the various entities across the corridor and are duplicated across geographic, language and company boundaries
- There is limited visibility of location detail of the cargo
- Location details are entered manually, and mainly by Francis following up on the location of the cargo via email for phone.



The Middle Corridor Platform-of-Platforms (POP) Example

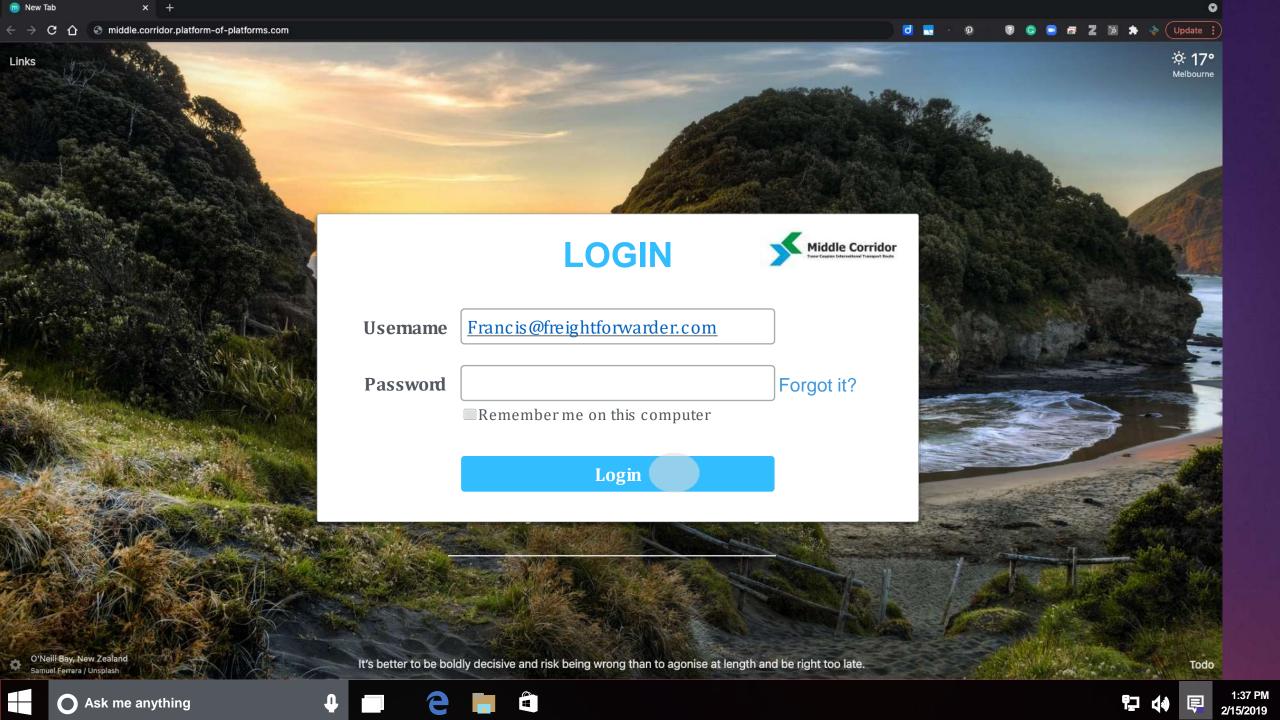
Create and Manage Shipment Requests

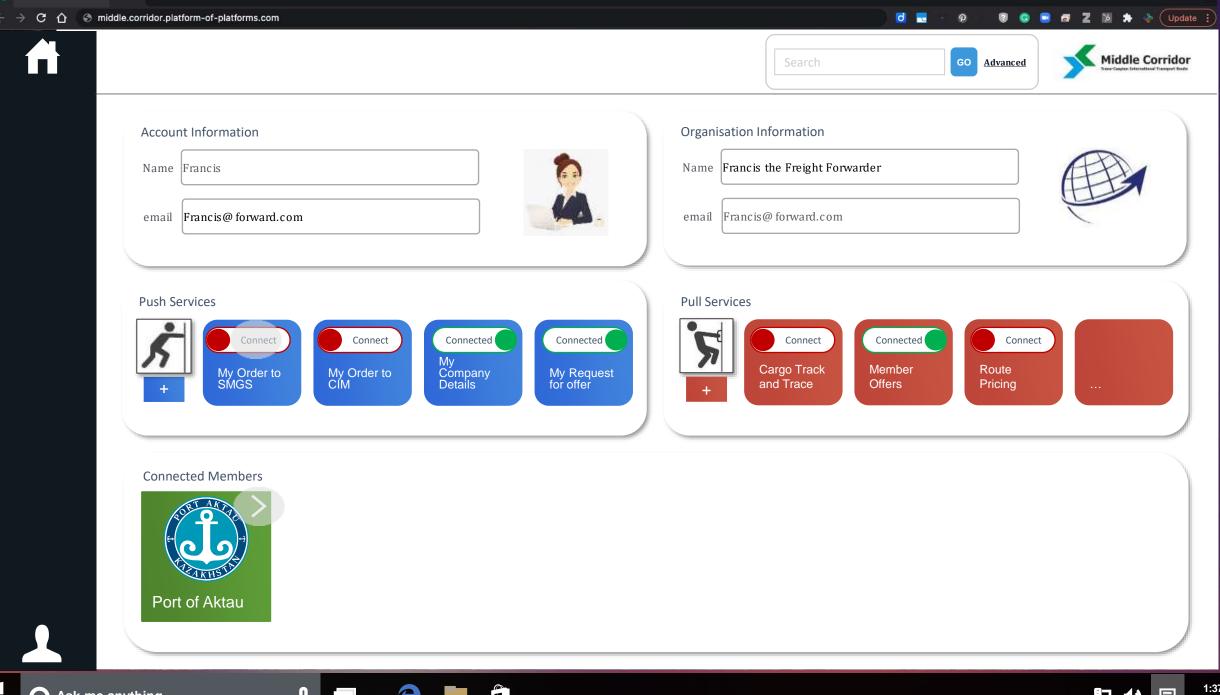
Receive Reponses and Offers

Negotiate Contract Terms Manage Shipping Operations

Whilst the POP can support the flow of requests and offers across all attached platforms....

....the focus for this initial prototype has been on publishing a contract and tracking the cargo in this contract.















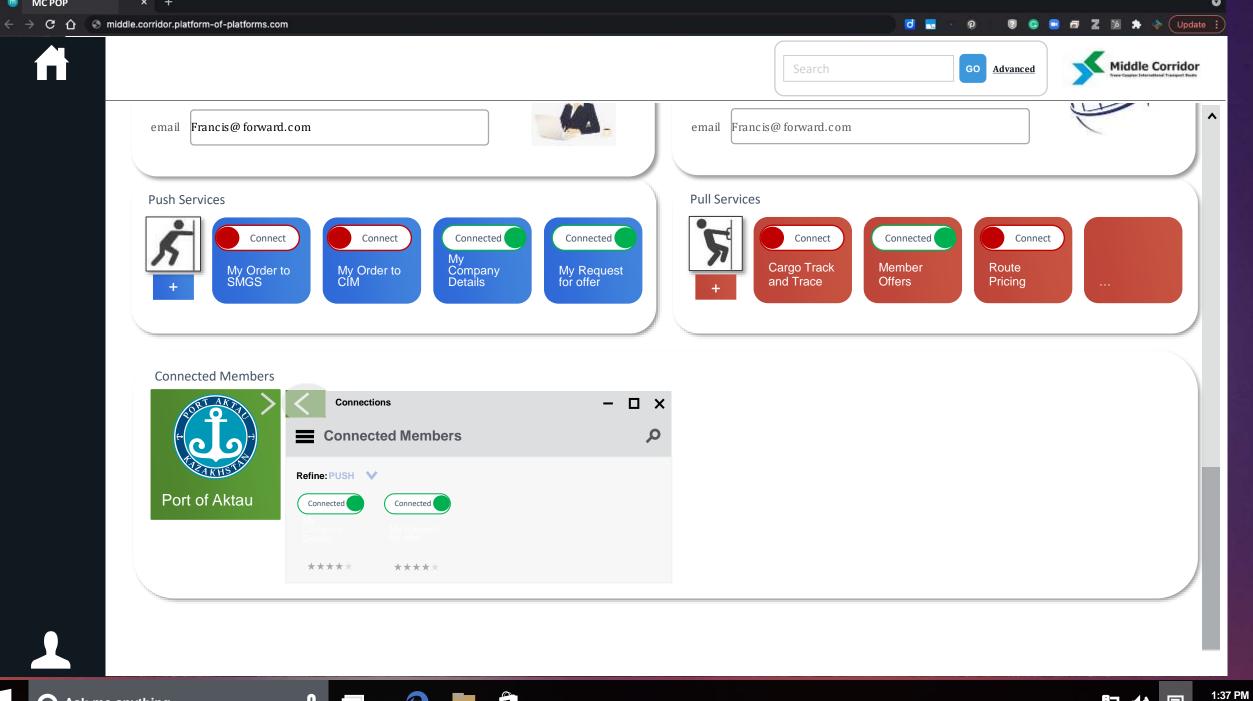




















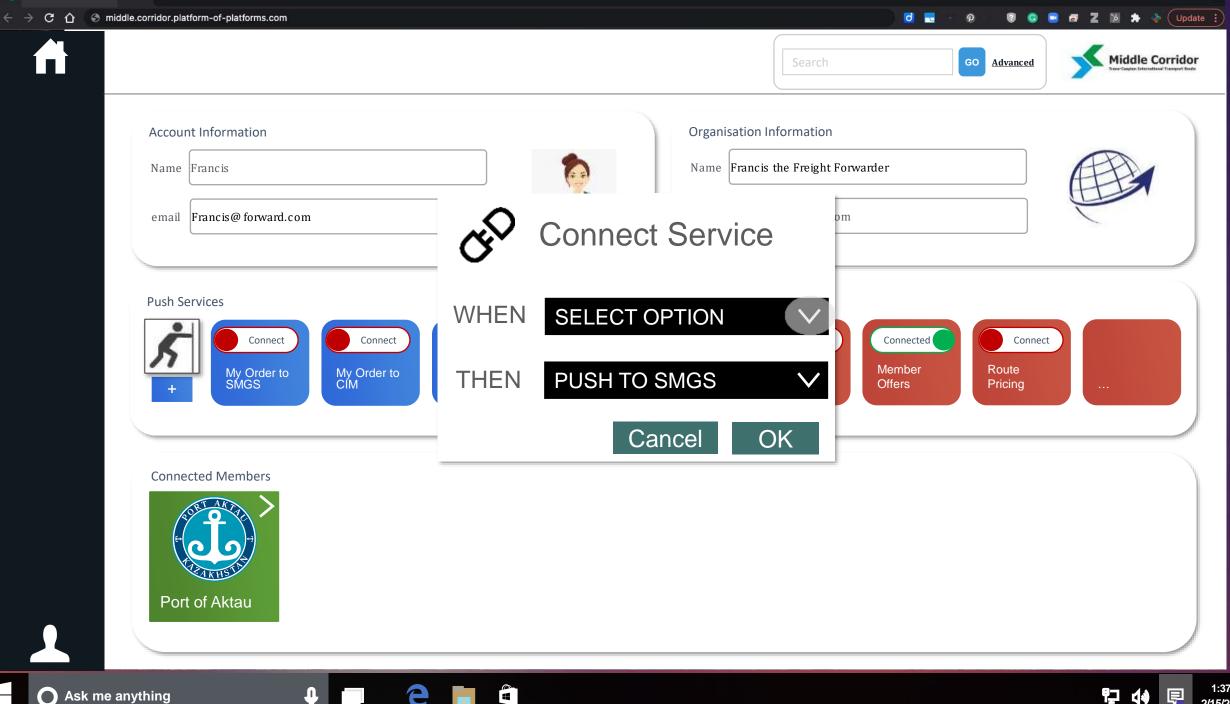




















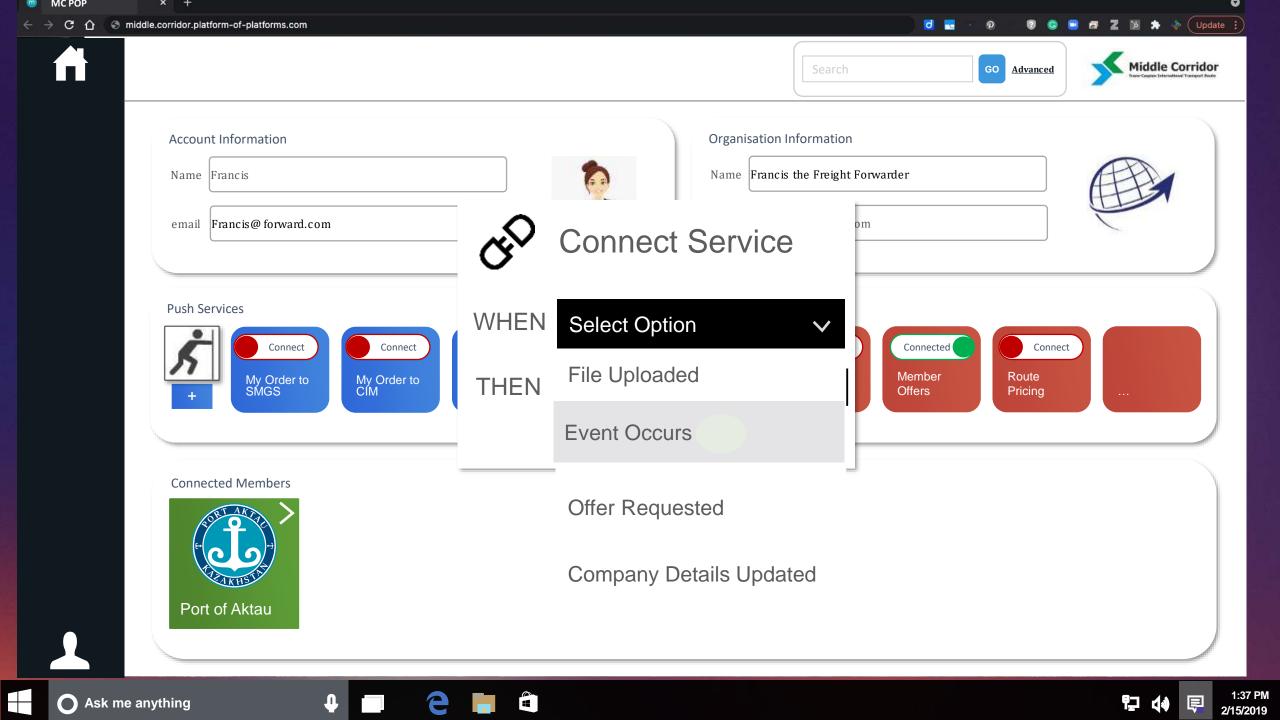


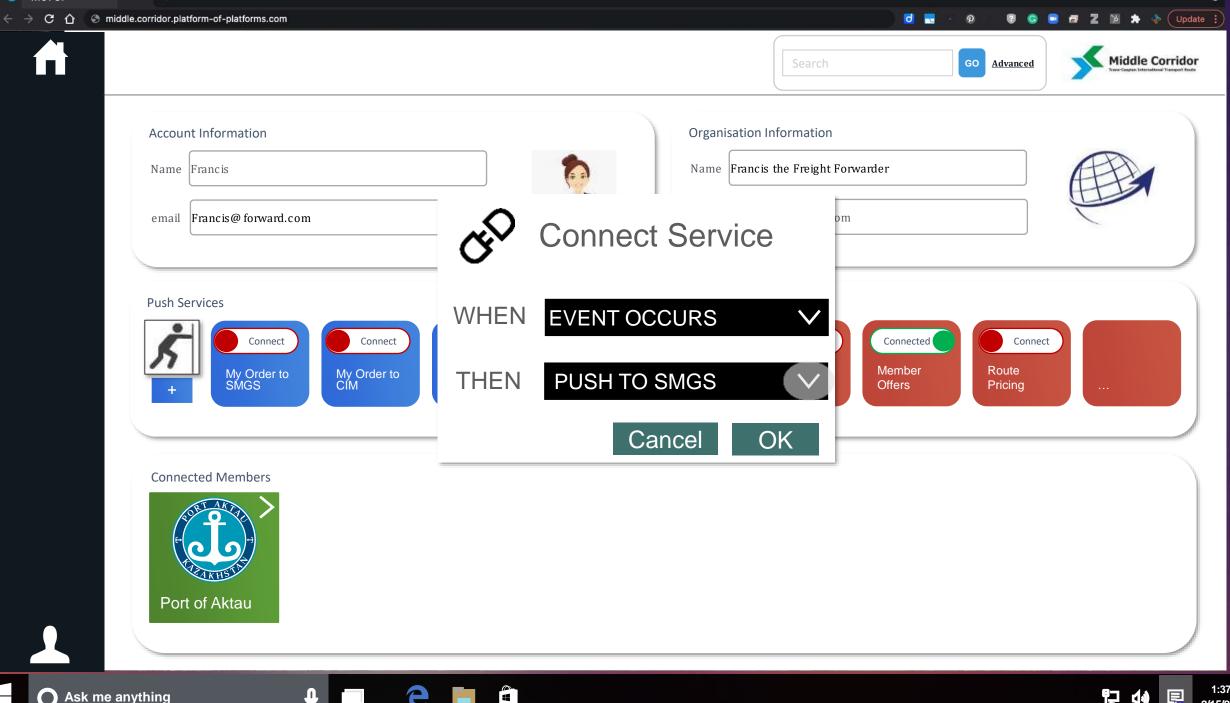






















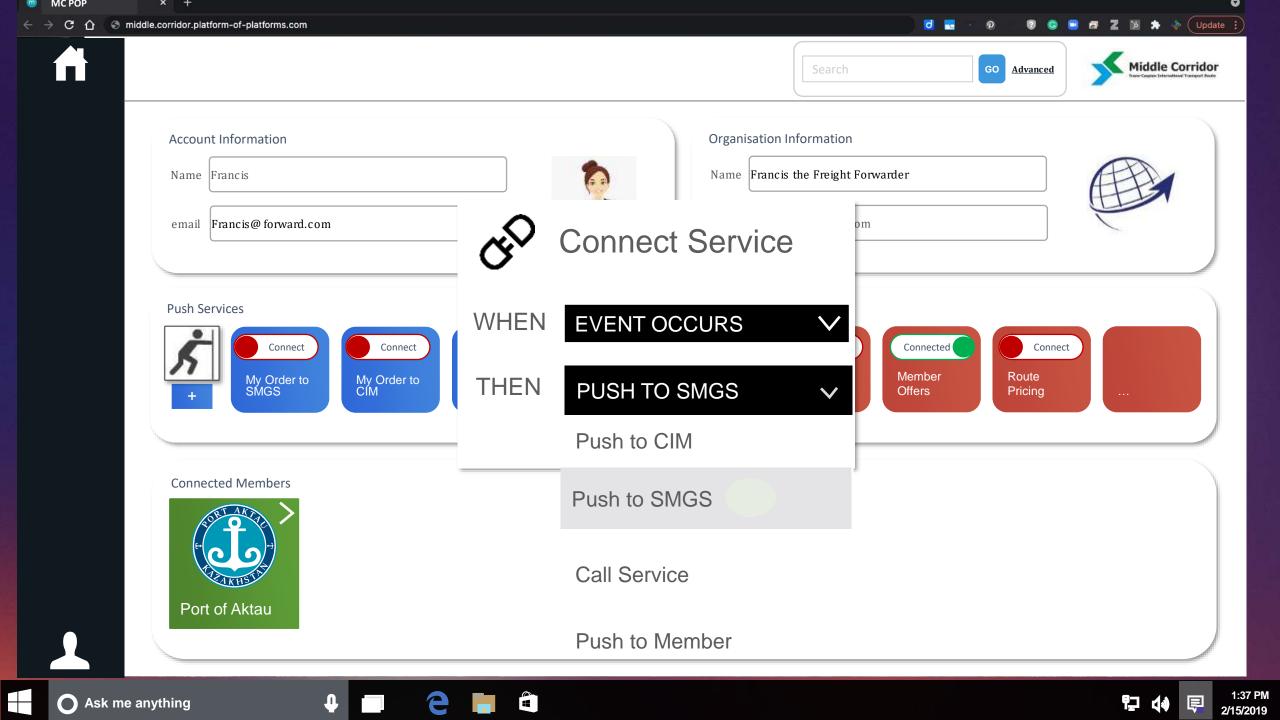


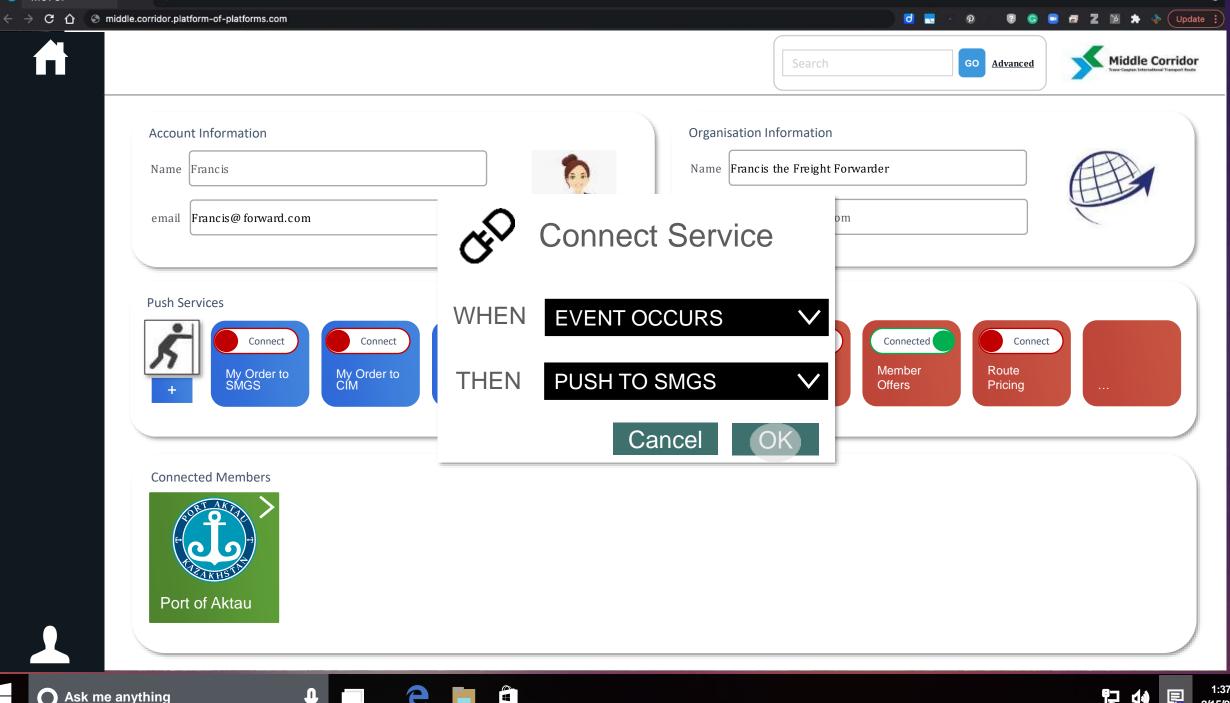






















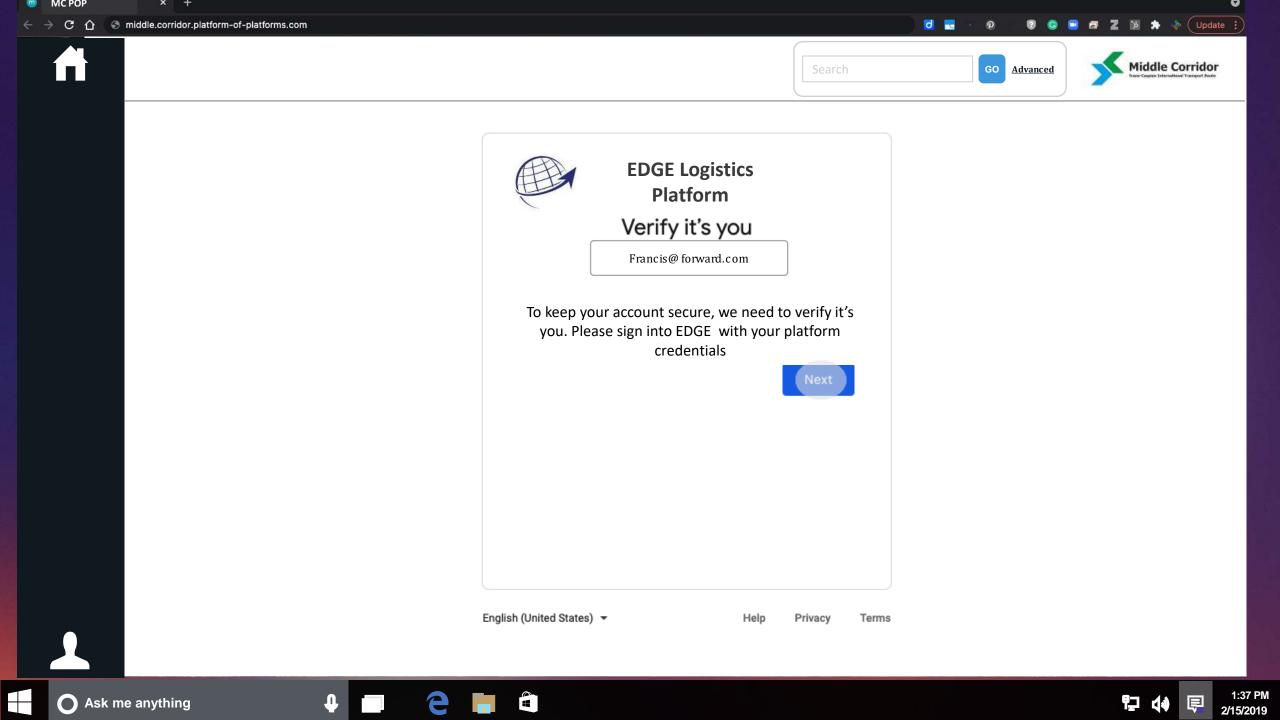


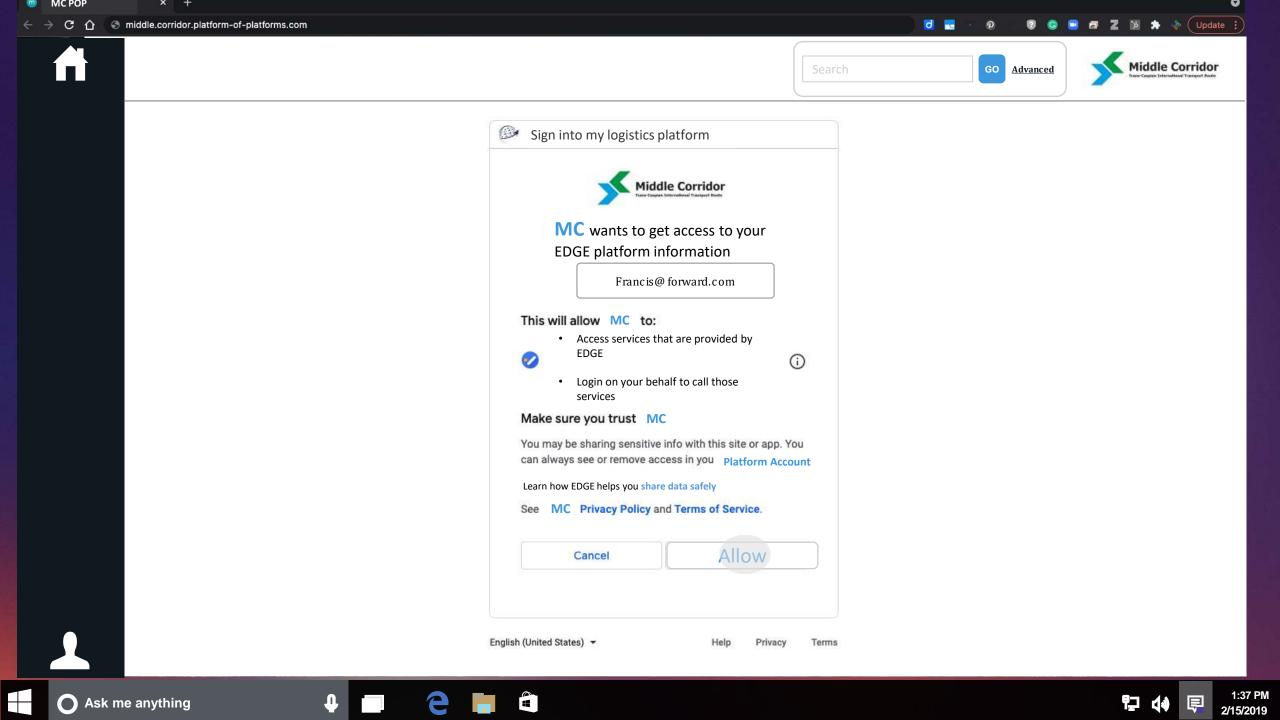


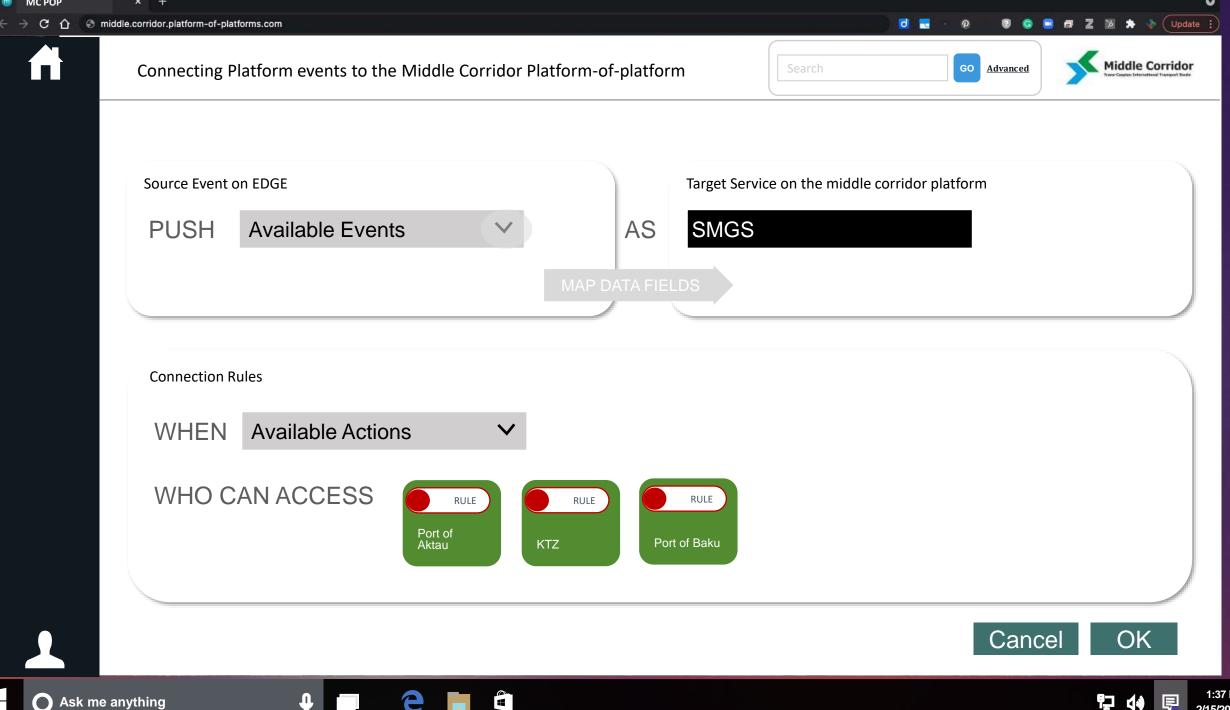


















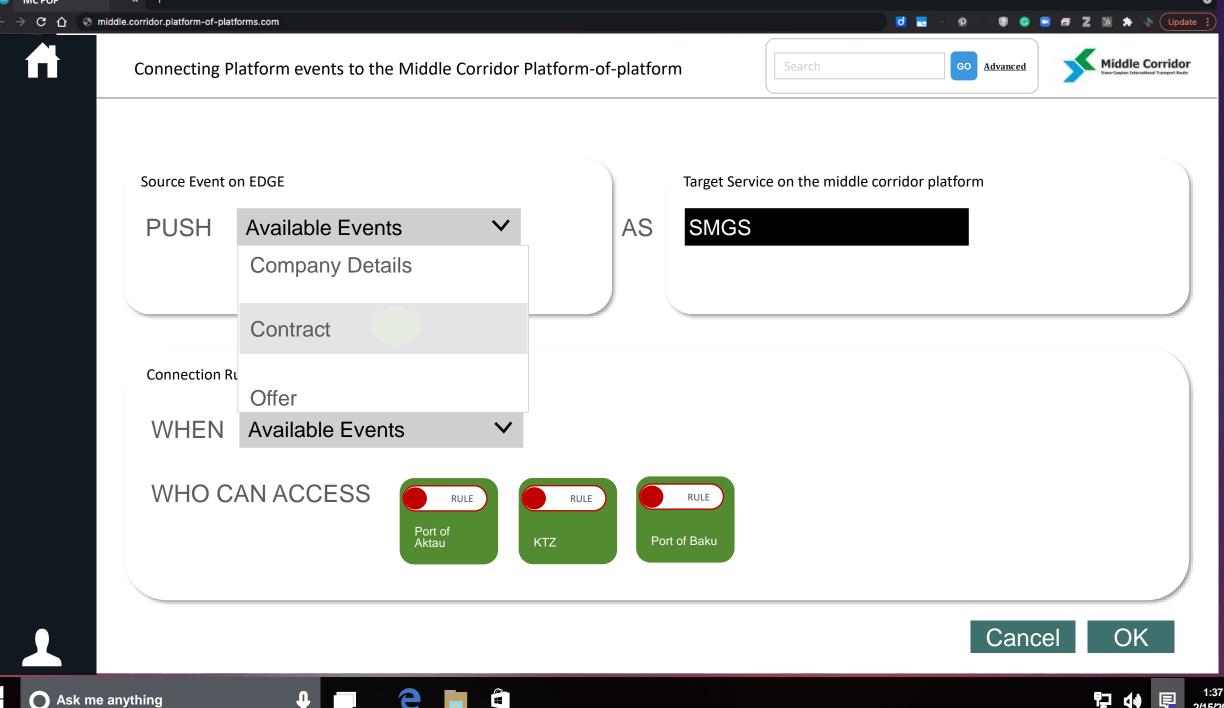




















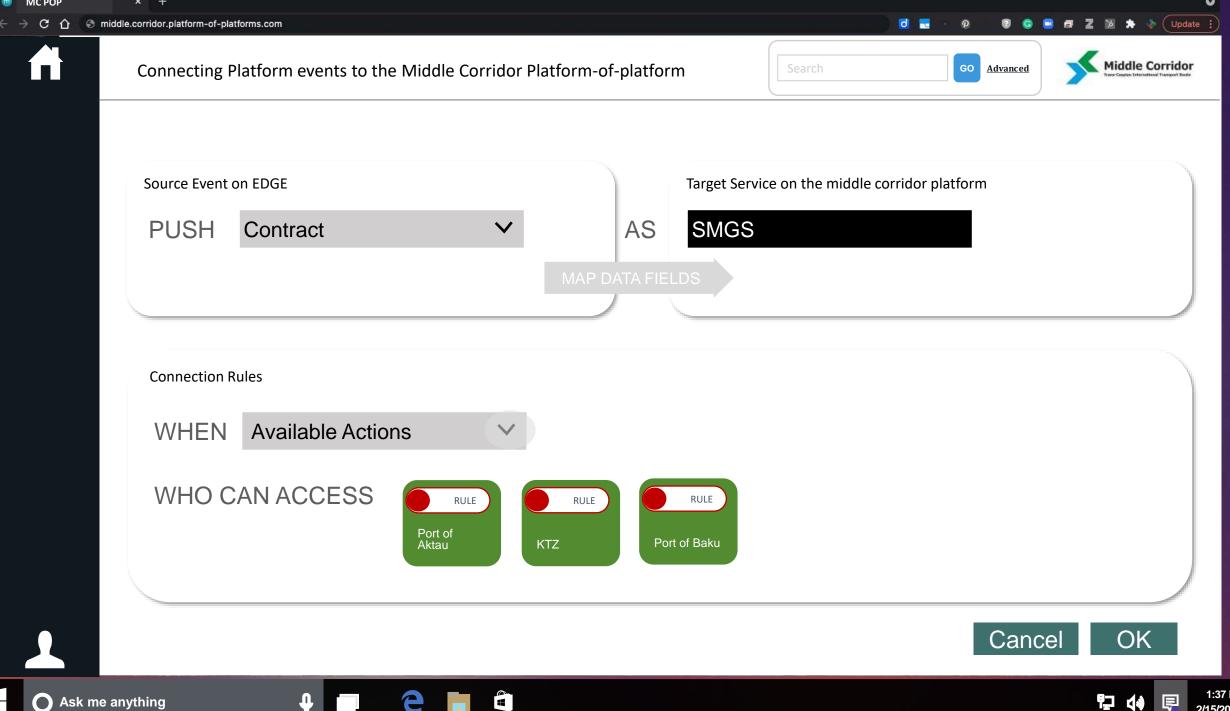
















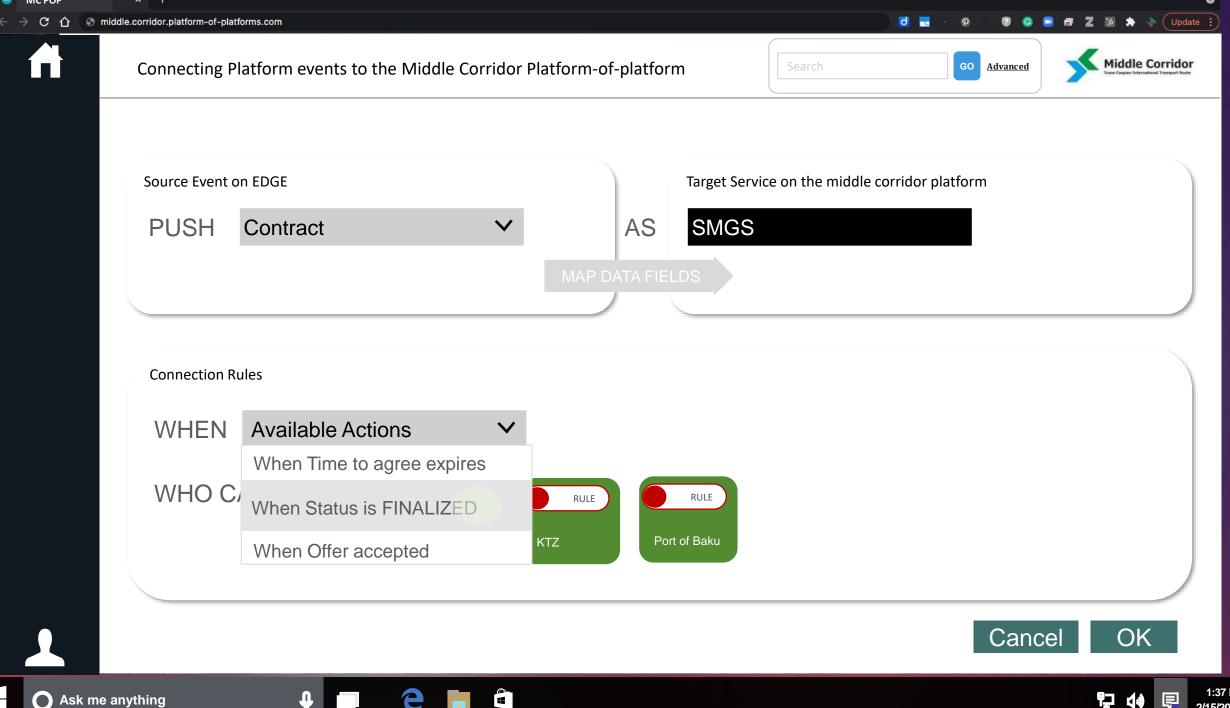


















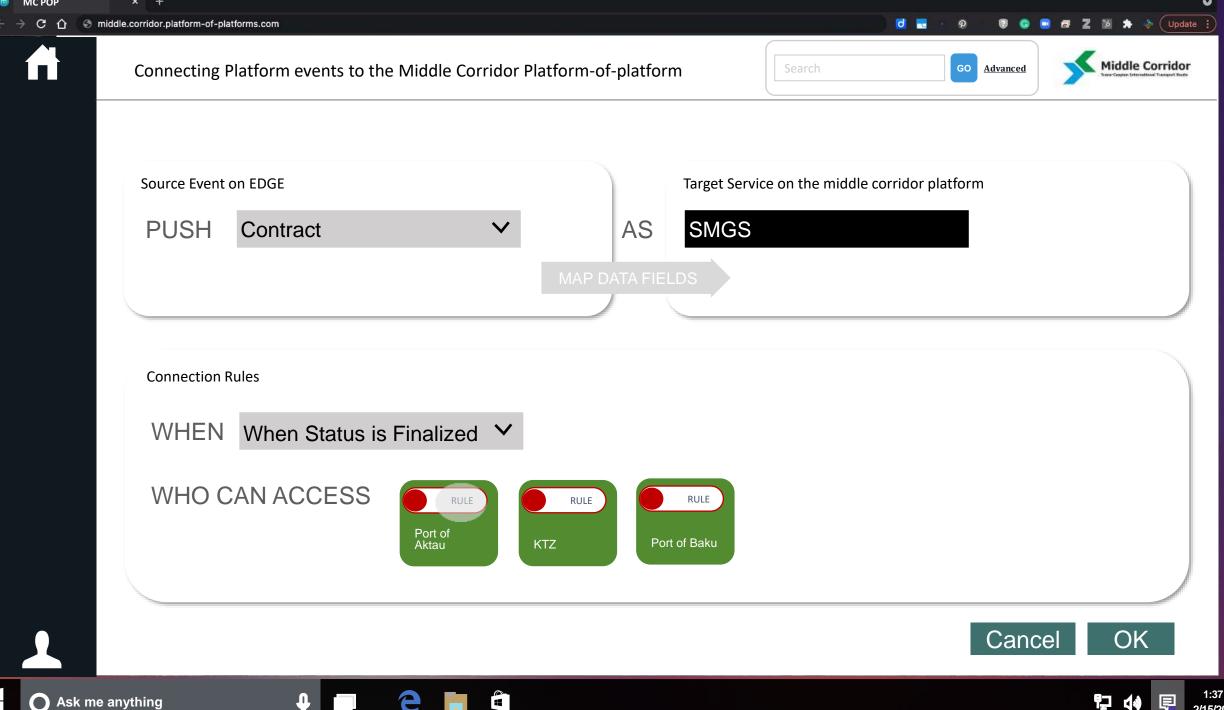






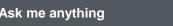














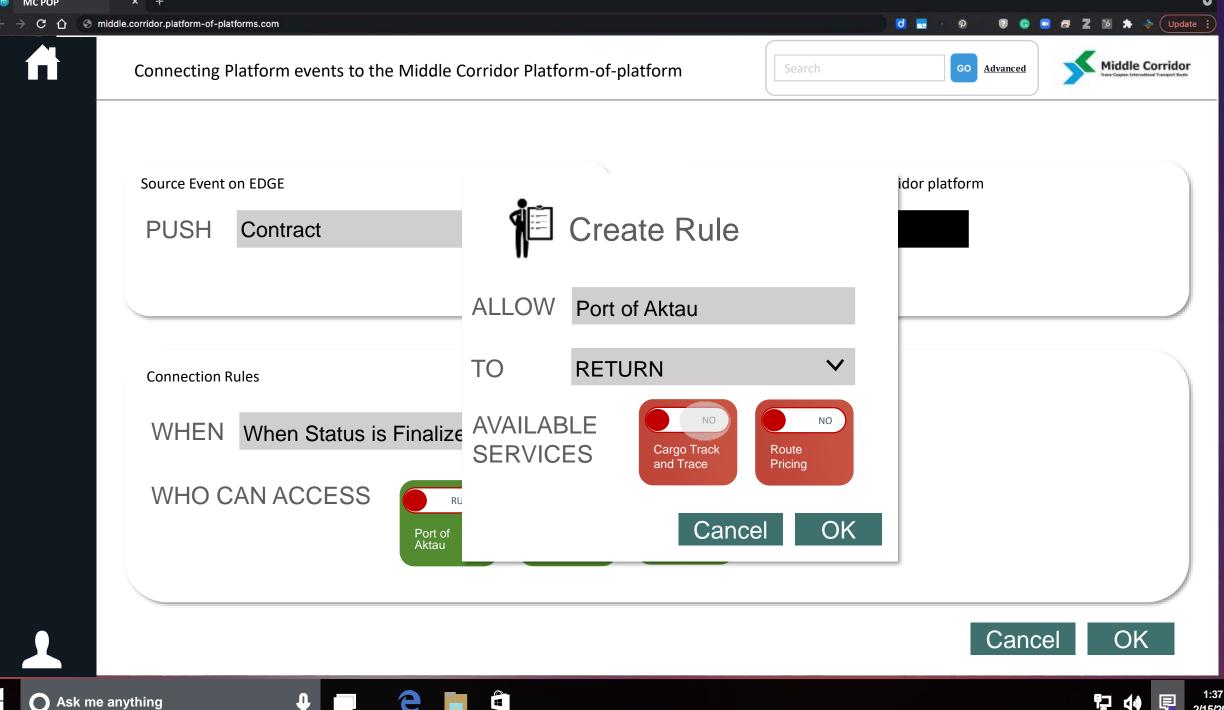






















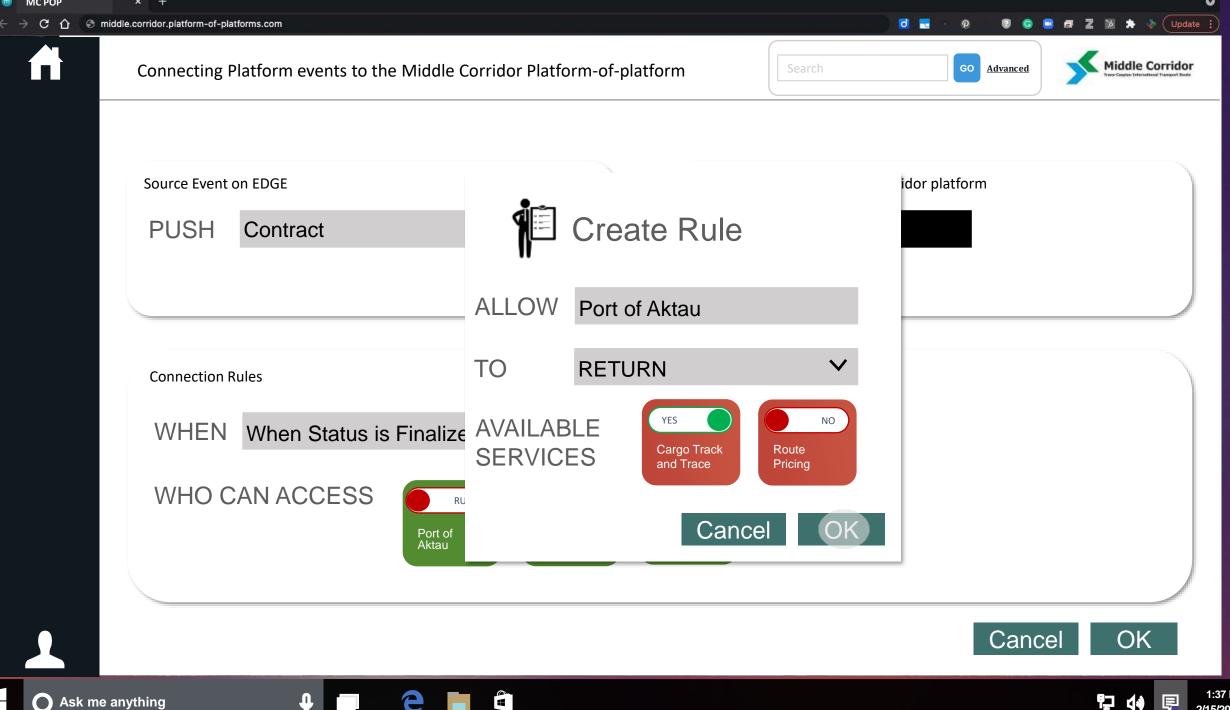






















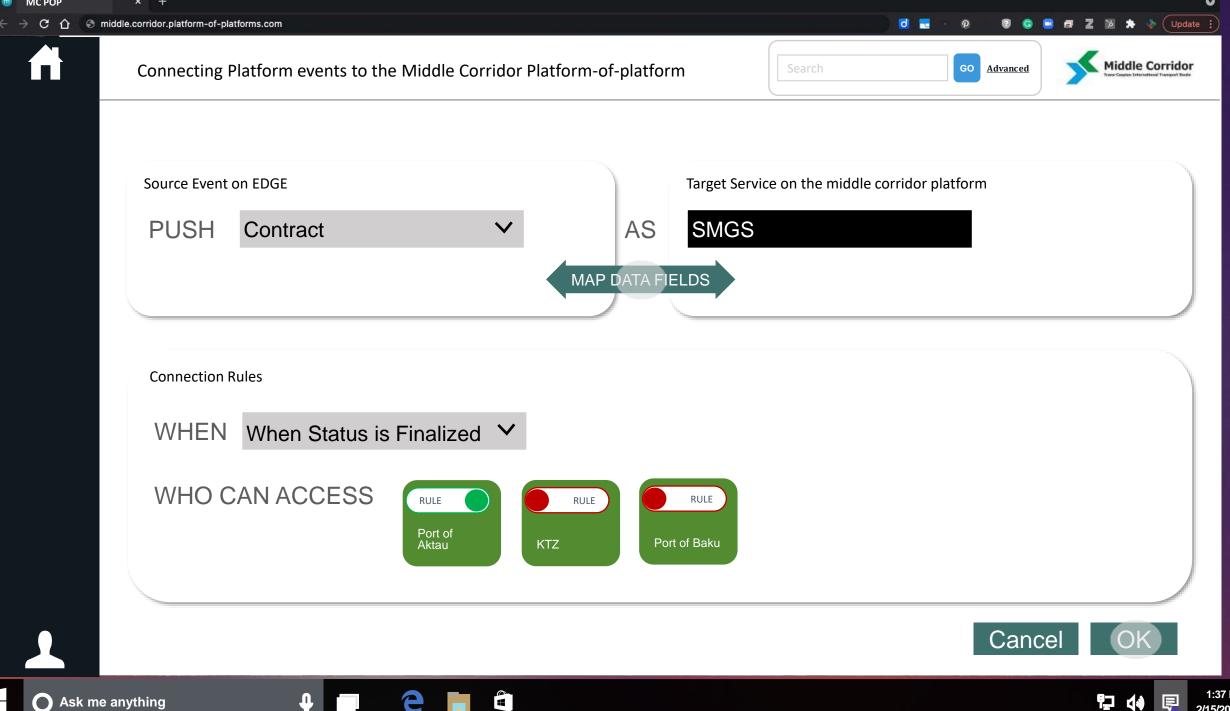


















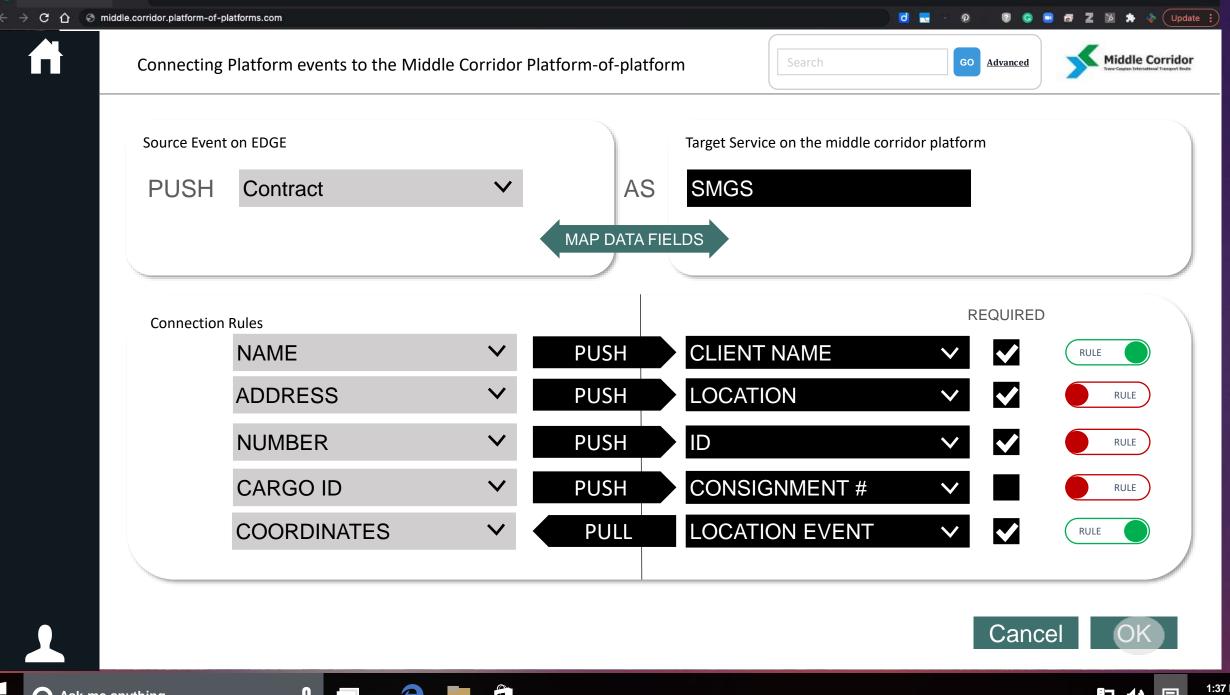






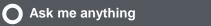
















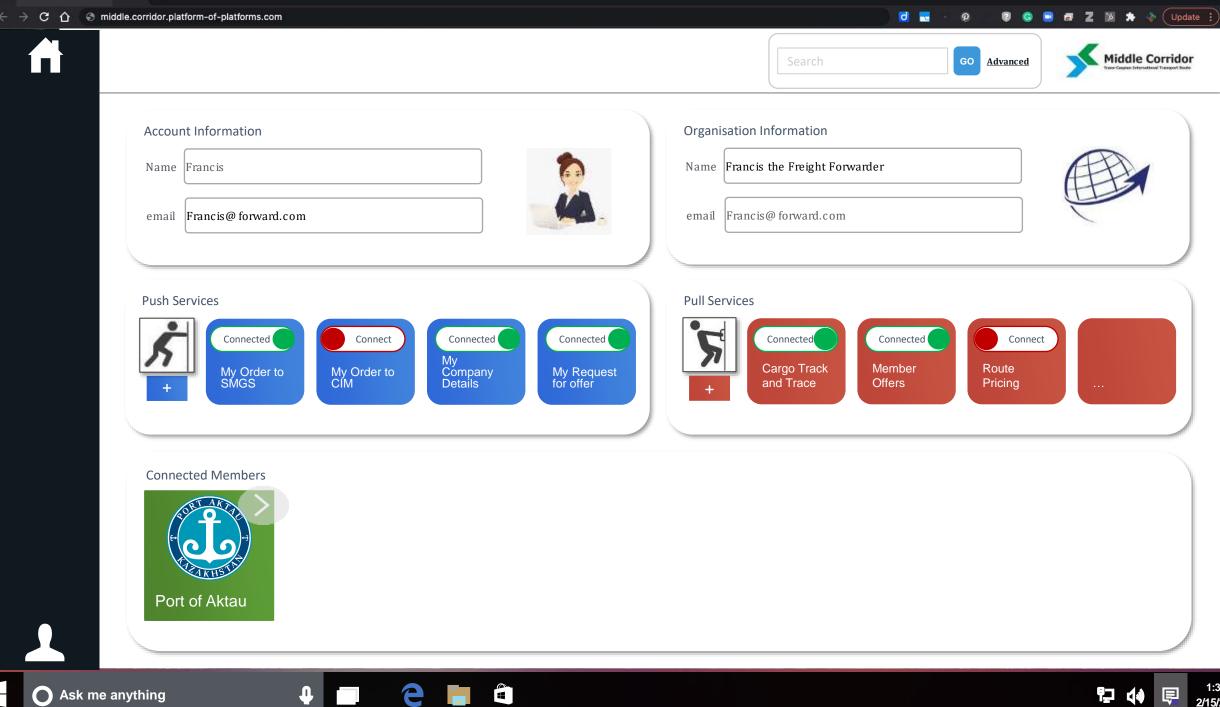






















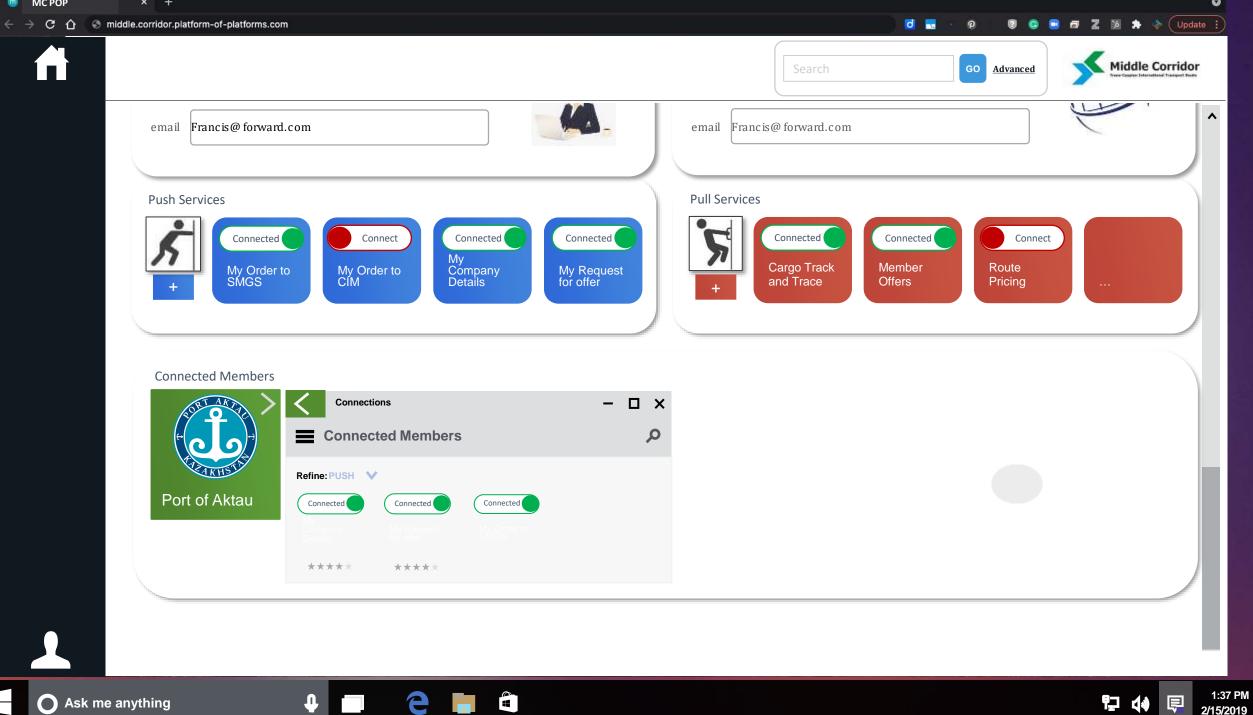




















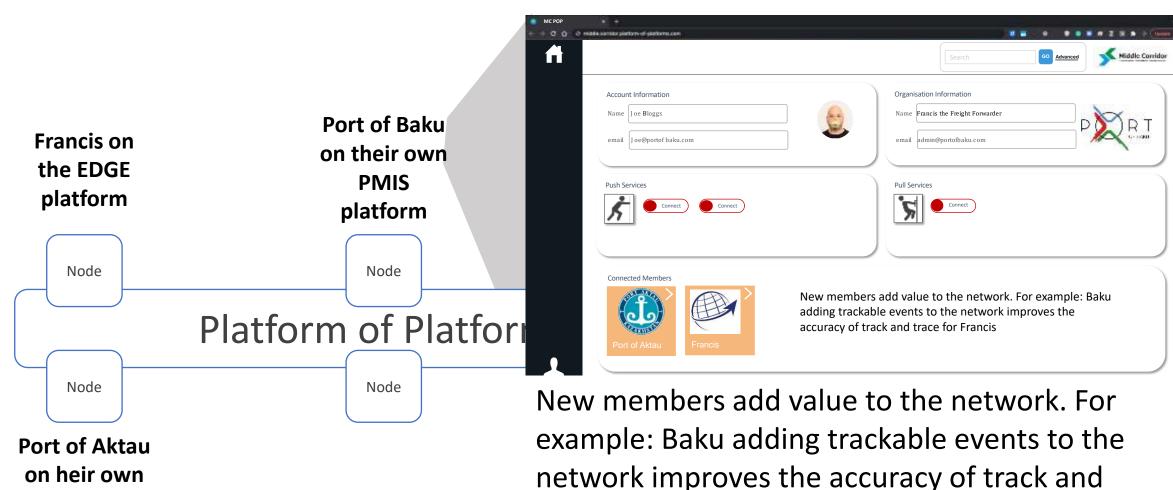








Growing the Network



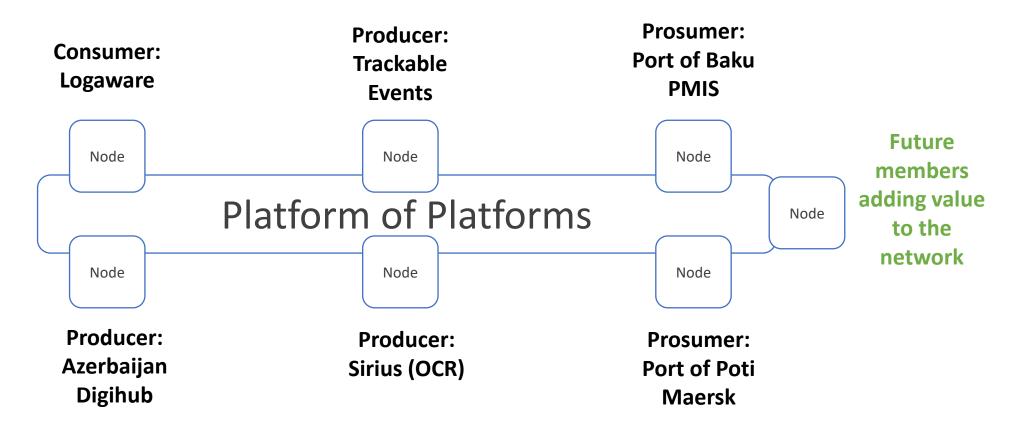
trace for Francis



PMIS

platform

Growing the Network



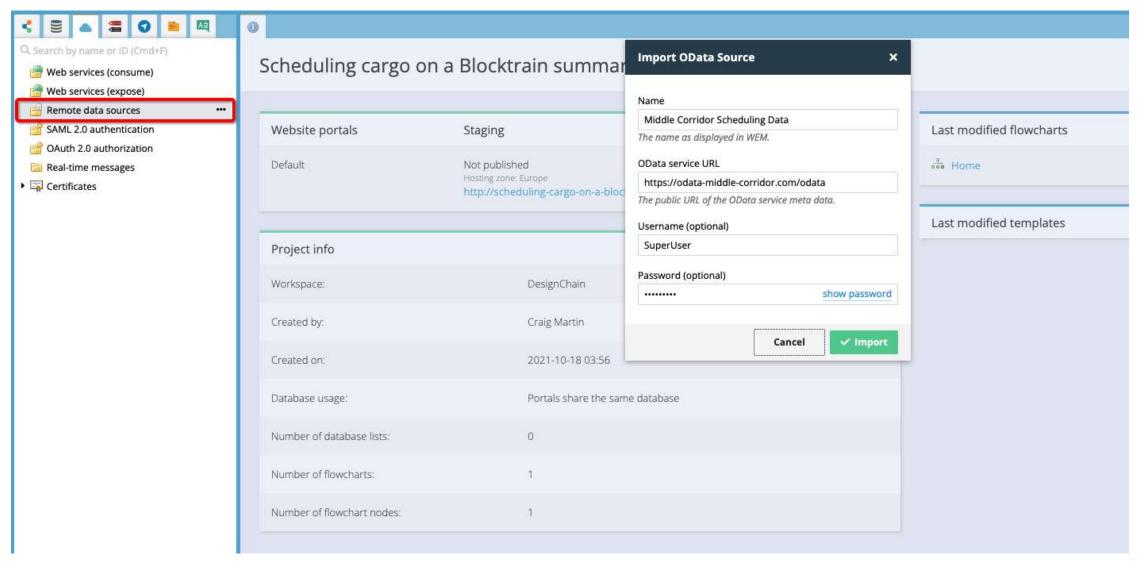
The network Effect is achieved as more members add their services and data into the network.



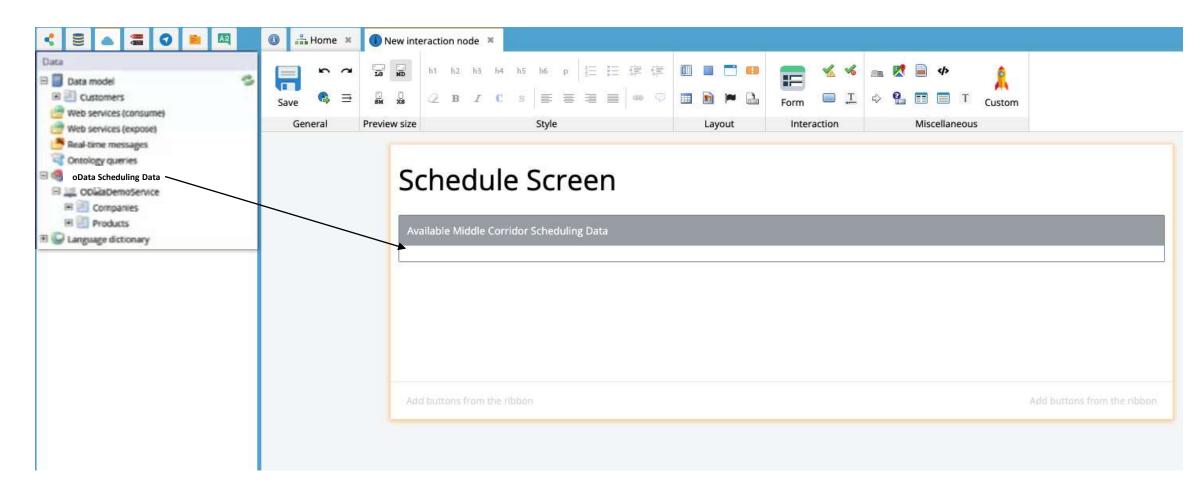
Adding and Creating New Services

- Fast Francis decides to use the data from the POP to create a new serviced for her customers
- She also makes this service available to the rest of the network
- New Service: Scheduling a Blocktrain

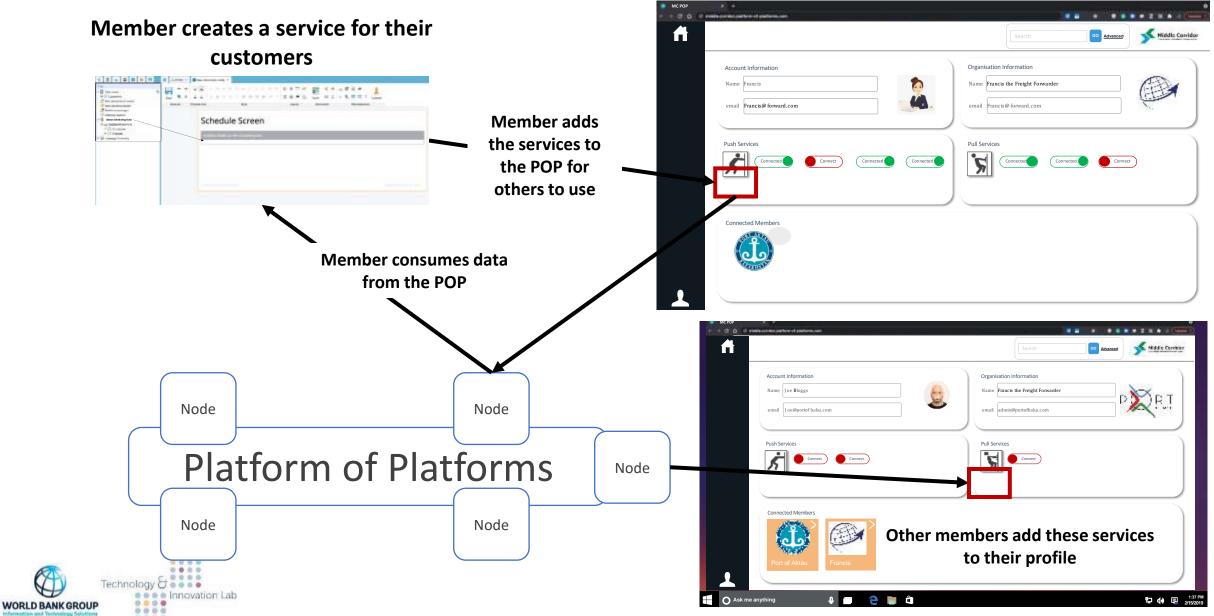
Using Exposed Data and Services in the POP



Build Applications and Services from Available Data and Services in the POP



Members reuse data and services for their own benefit or the benefit of the broader corridor



Ownership, operator, operating and business model These are our initial recommendations for the "form" of the organisation that must support the solution

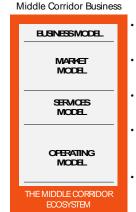
Ownership Model:

- We recommend a public private partnership (PPP) a combination of public and private options, where entities from both sectors contribute to planning, financing and implementation.
- This will take the form of a Special Purpose Vehicle (SPV) with government investment or subsidy as the preferred option for the ownership model as it takes advantage of the strengths of both public and private ownership models.

Operator Model:

- When weighing the options against each other with special regard to flexibility and efficiency, a private operator model is preferable over a public operator model.
- Especially in the context of digitalization and ICT, governmental agencies have been slow in adopting new developments, whether because of high bureaucratic hurdles or regulatory limitations (especially regarding data security). While private entities are subject to these obstacles as well, they tend to overcome them more quickly and efficiently.
- In addition, a private operator from a non-participating country might be more acceptable for the participating countries and their respective governments, especially when combined with a PPP-ownership model in which all participating countries, as well as, key stakeholders and the operating entity, receive representation in the SPV's board.
- This could lead to efficient and legitimized control over the platform in general and the operator in particular.
- Choosing a private operator would partially resolve the question of liability. The operating entity should assume full responsibility for ensuring a stable and secure operation of the platform, thereby shifting a part of the financial risk towards the private sector.





- Service model what services the middle corridor will provide?
- Ownership structure who will own the entity that provides the services?
- Operator Model who will operate / manage the entity that provides the services?
- Operating Model what form will this entity take. How will it's resources be structured to deliver the service?
- Business/ Revenue Model how will this entity create, capture and deliver value?

Operating Model:

- As an initial starting point, we recommend that a co-ordination operating model be used.
- This will structure the middle corridor entity around data and the sharing of this data with some limited sharing of processes.
- This model also allows each organisation to operate independently.
- As trust grows, and additional processes and services are brought under the middle corridor banner, there may be some areas of unification, where members adopt and standardise aspects of their own operations to be consistent across the corridor

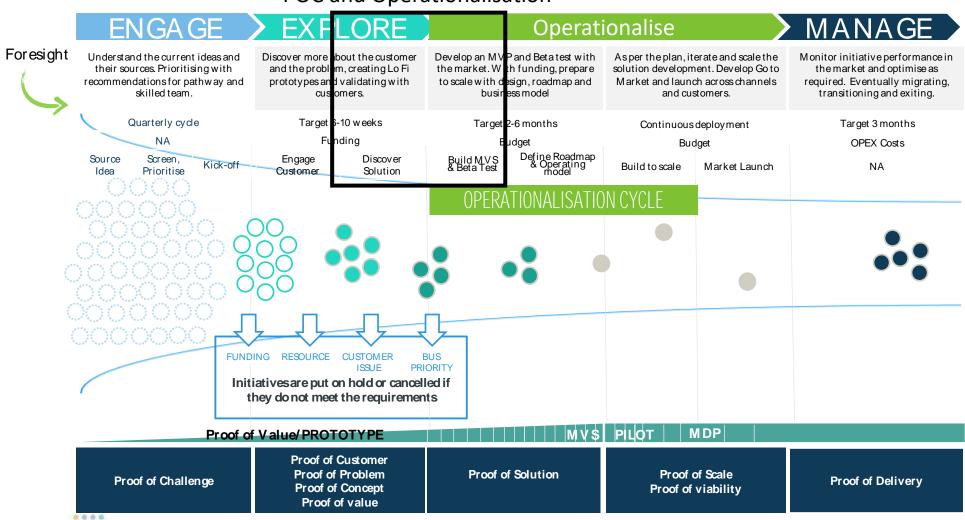
Business / Revenue Model

- Finally We propose a mix of revenue streams as a starting point for the business model:
 - FIRST One-time registration / integration and setup fees
 - THEN Monthly / annual volume based subscription fee
 - THEN post volume pay-per-use transaction fee (pay per service request)
 - AND pay data and service providers a pay-per-use transaction fee



Next Steps

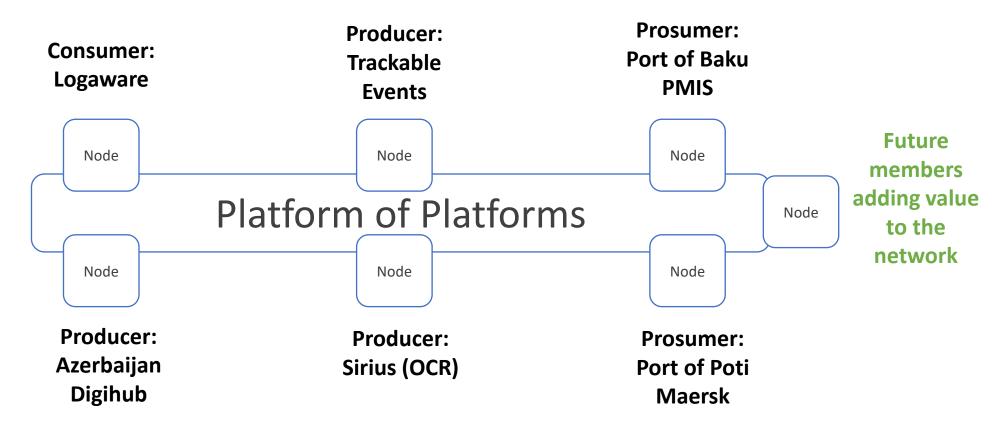
POC and Operationalisation





Next Steps: Proof of Concept

Develop a working POC with specific members to prove the POP concept further.





The Platform-of-Platforms Value Proposition

Demonstrated through the prototype:

1. It does not mandate a platform for the members but instead allows them to pursue and implement their own digital transformations and simply "plug-into" the platform-of-platforms to produce and consume services and data.



2. The concept allows members to add and share services and data using a multi-sided platform model. This helps reduce duplication and facilitates a build and share once principle where all members get the benefit of services created by other members.



3. Supports the network effect for scalability Future members, routes and services can be "bolted" onto the solution, each new addition increases the value of the platform and the services that are provided.



The purpose of today

- We have developed a concept called the "Platform-ofplatforms".
- We have created an initial design prototype to give stakeholders a more tangible view of what this platform-ofplatforms concept looks like.
- We are looking for:
 - Validation and feedback; and
 - Expression of interest from partners who are interested in being involved in the next stage POC

END







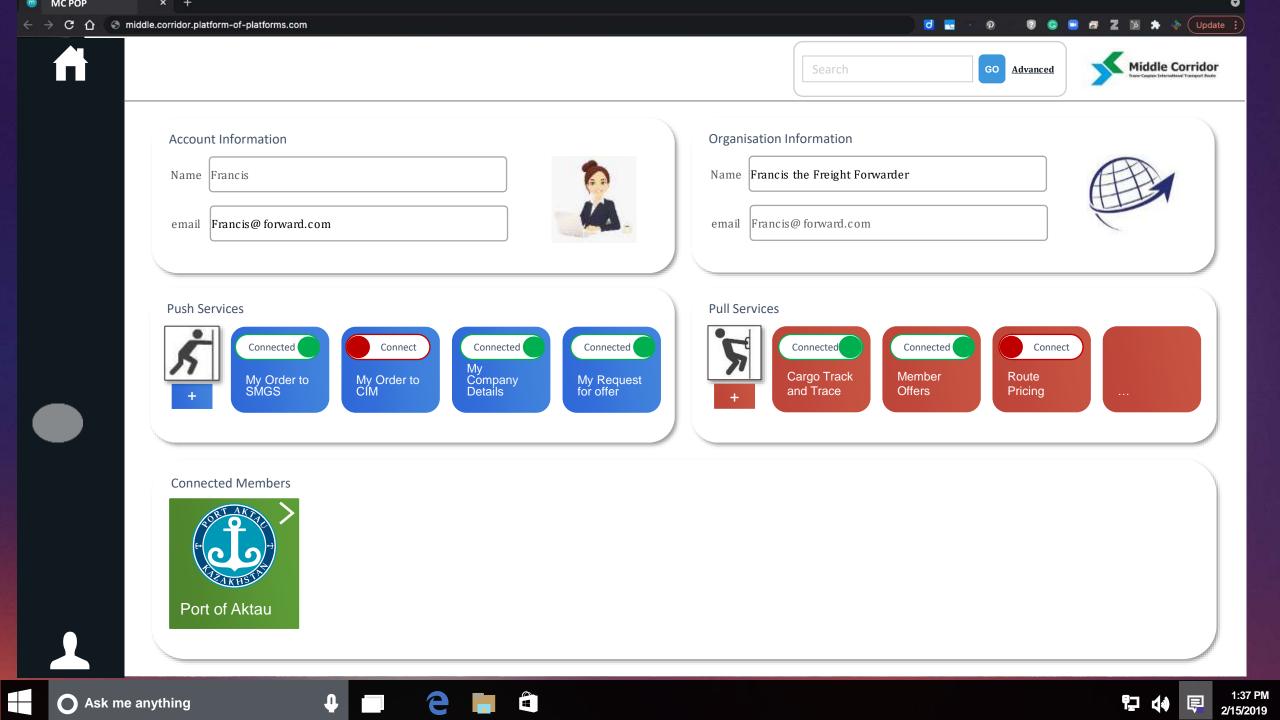














WBG Middle Corridor

Platform of Platforms Low Fidelity Prototype

