

**Problem: How to build a
multi country cloud
infrastructure for a bank?**



80 million
customers

~7500
employees

~1800
engineers

3 countries



Credit card

Bank Account

Investments

Lending

Instant payments
Insurance
...

250 billion HTTP
requests
per week

1500 deploys
per week

~188B/110B
messages
consumed/produced
per week

1000
microservices

9 Billion Weekly
Datomic Write
Transactions

1+ Petabyte of
Storage

**Problem: How to build a
multi country cloud
infrastructure for a bank?**





1 -> 2

Duplicate everything

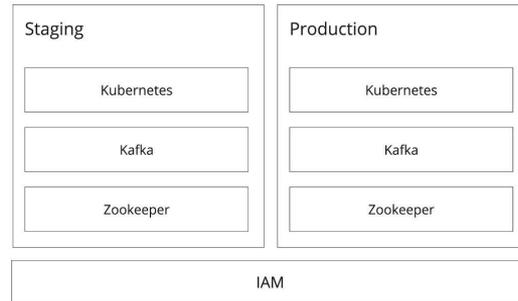
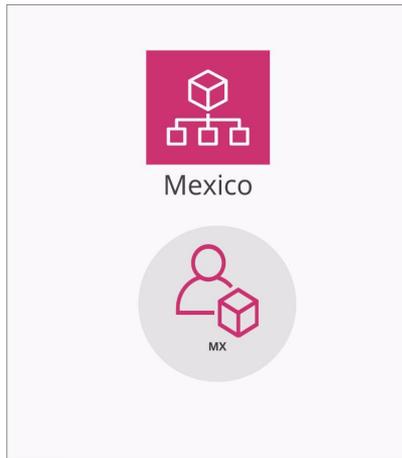
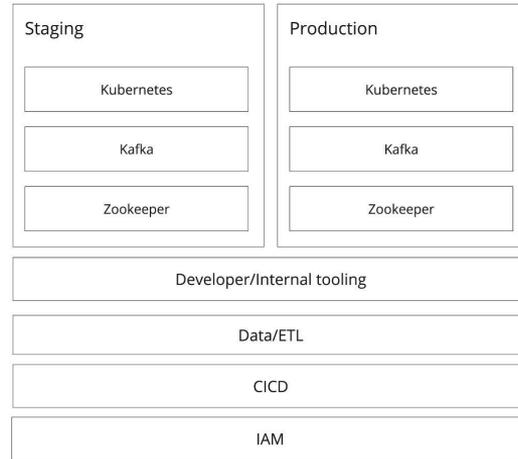
Fresh uncluttered start



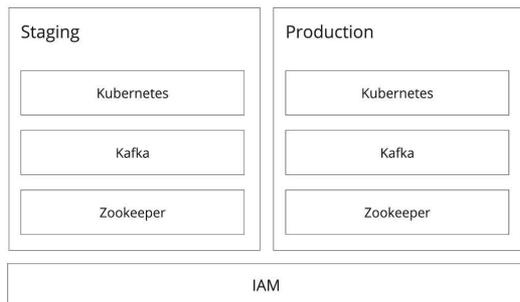
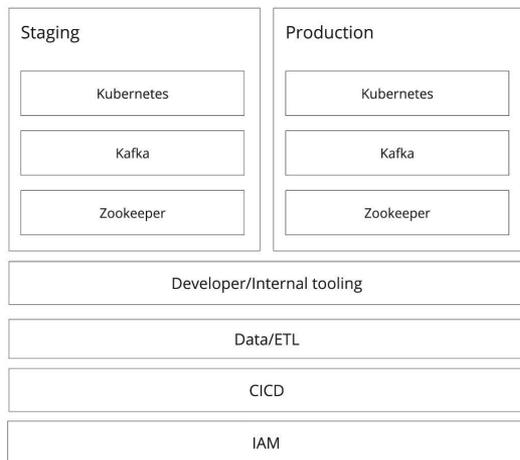
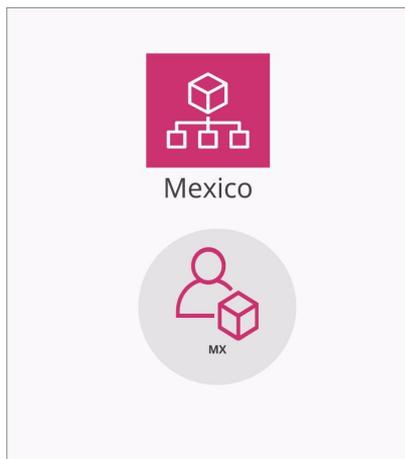
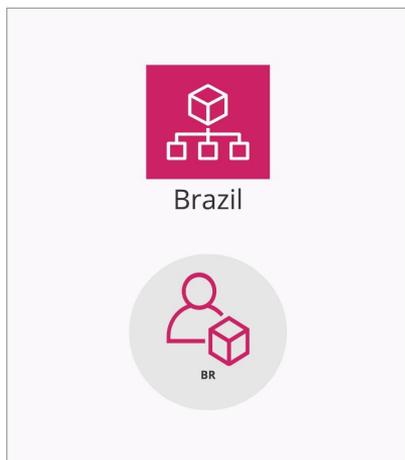
1 -> 2
Duplicate everything

The first milestone

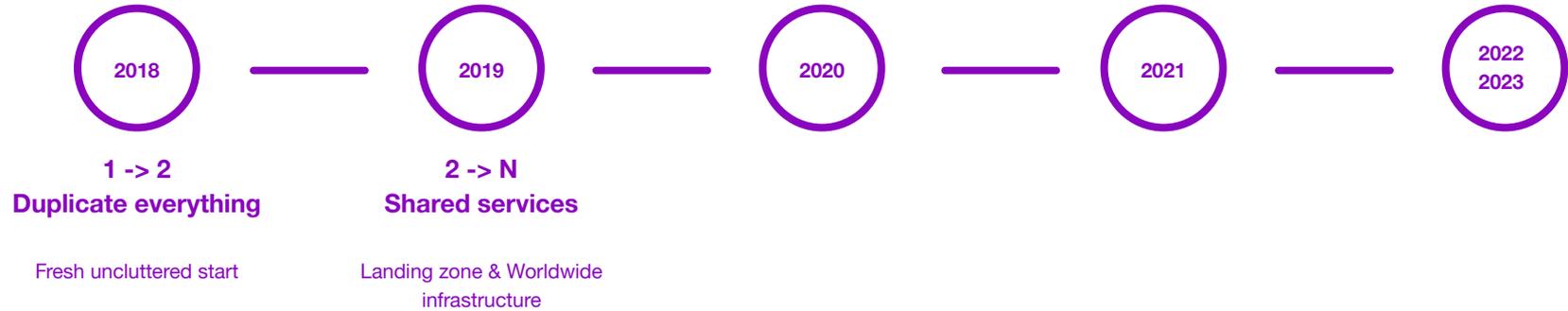
- Understand the requirements for internationalization
- Learn about the pain points
- Have an iterative process
- Build playbooks



* Diagrams are over simplified



- We don't want to duplicate everything, it's hard to maintain and operate
- Data Platform, Internal Tooling and CI/CD in Brazil, serving both countries.
- Lack of clarity of what is being shared for Brazil and Mexico countries





GCP: A landing zone, also called a *cloud foundation*, is a modular and scalable configuration that enables organizations to adopt Google Cloud for their business needs. A landing zone is often a prerequisite to deploying enterprise workloads in a cloud environment.

Azure: An Azure landing zone is an environment that follows key design principles across eight design areas. These design principles accommodate all application portfolios and enable application migration, modernization, and innovation at scale. An Azure landing zone uses subscriptions to isolate and scale application resources and platform resources. Subscriptions for application resources are called application landing zones, and subscriptions for platform resources are called platform landing zones.

AWS: **A landing zone is a well-architected, multi-account AWS environment that is scalable and secure. This is a starting point from which your organization can quickly launch and deploy workloads and applications** with confidence in your security and infrastructure environment. Building a landing zone involves technical and business decisions to be made across account structure, networking, security, and access management in accordance with your organization's growth and business goals for the future.

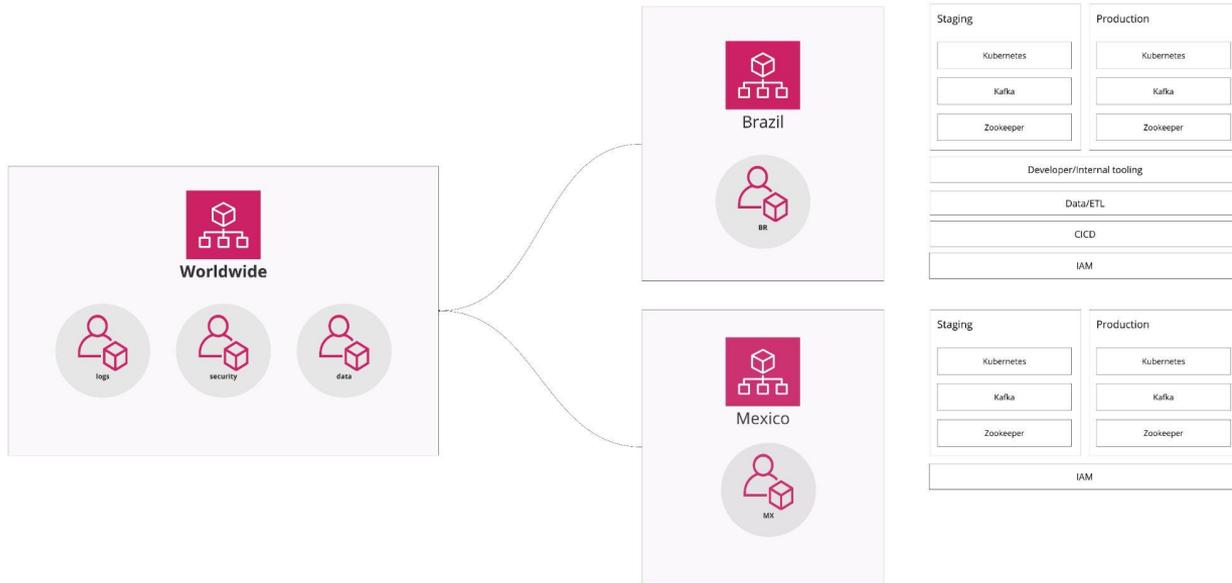
Landing zone

- For AWS it means a multi account environment



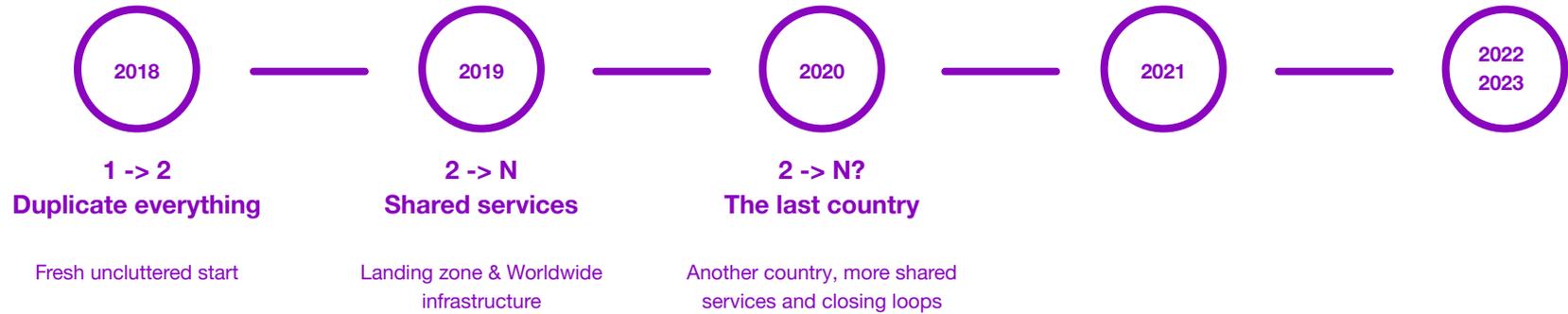
AWS multi-account

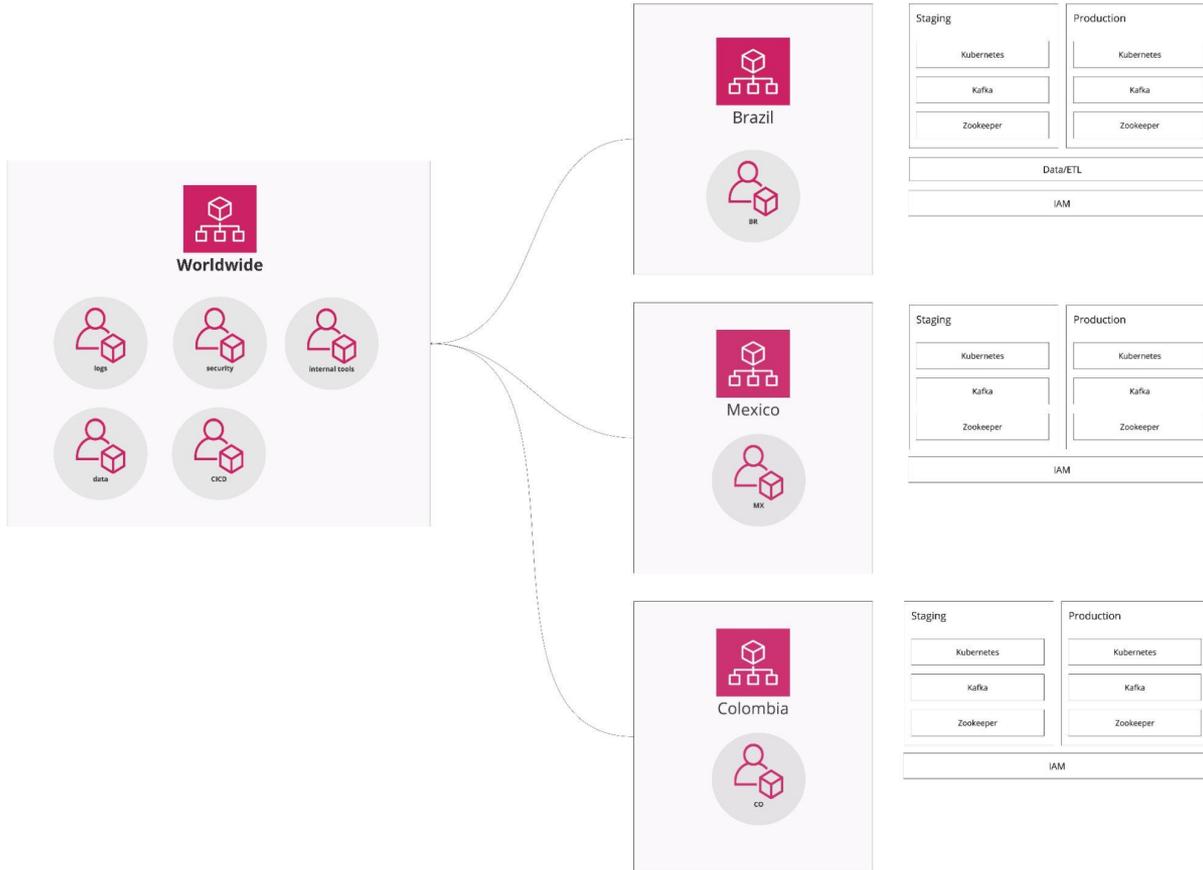
- Default security policies
- Isolation between workloads
- Multiple natural security boundaries, with explicit and intentional access only
- Scalability (AWS account limits or API rate limits)
- Minimize the impact of potential incidents



Worldwide shared Services

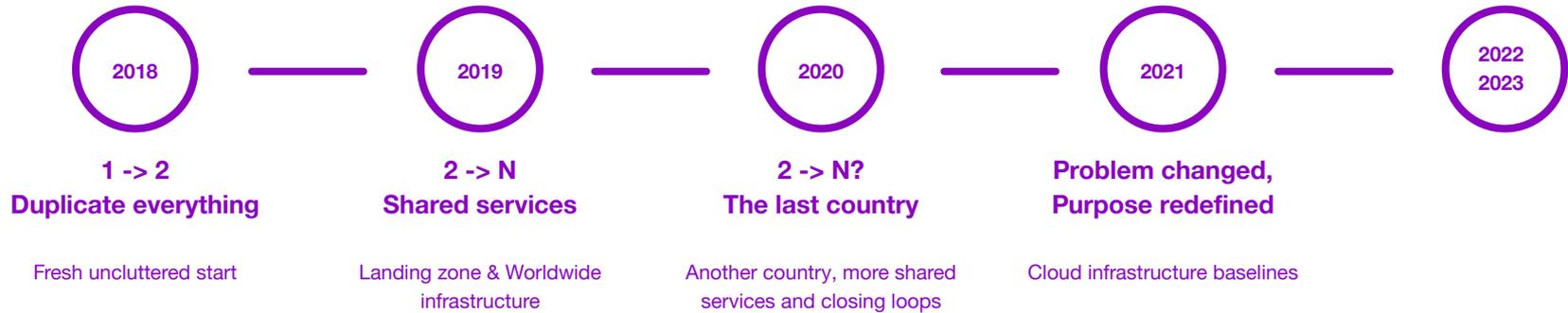
- Clear boundaries for shared services, avoid coupling with any specific country
- Clarity on how changes might affect other countries

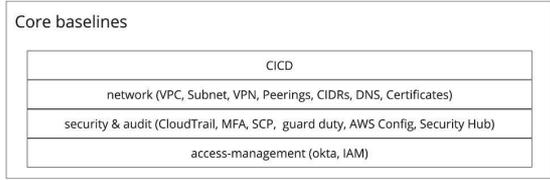
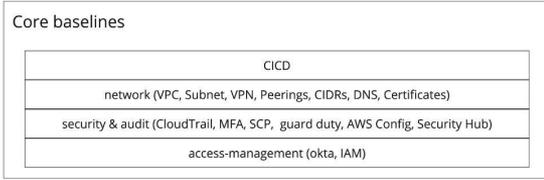
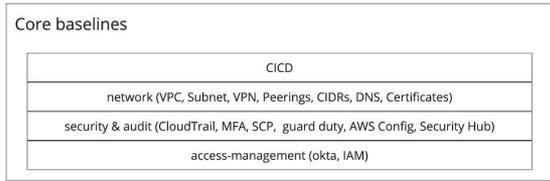
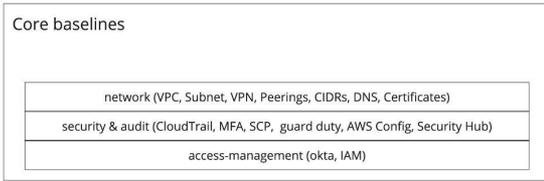
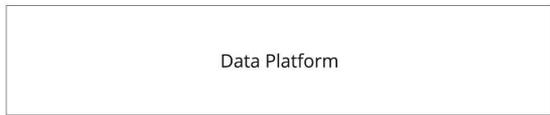
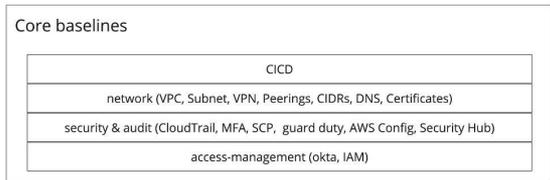
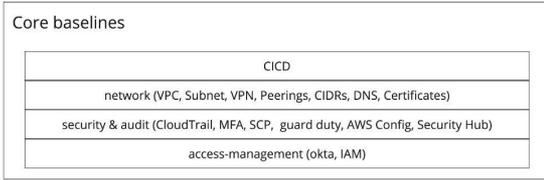




- Launched Colombia
- CI/CD
- Internal shared tools

* Diagrams are over simplified





Cloud infrastructure baselines

- Consistent level of maturity across all AWS accounts
- Define the standards for cloud infrastructure
- Reduce the time and complexity to have a production-ready infrastructure environment for new countries and new business acquisitions

* Diagrams are over simplified

Multi account strategy

Enable and governance
Cloud Infrastructure baseline

Infrastructure standards, consistently applied

Baseline management system

- access management
- security
- lambda infra
- network

Process efficiency

Account management

- Request process/Account Factory
- Remove Nucli and local commands
- Environment creation
- Self bootstrap

Industry and vendor best practices & standards

Cloud architecture

- Landing zone
 - Account structure
 - logs/sec/etc
- Billing & Payout

Global scale maturity & efficiency

Global platforms

Migrations to IST
Internal Tools

ISA

Blueprint

Space Team

security lambdas

secrets management

ECR

AMI

other migrations

Remove dependencies from BR

ETL

oracle/sap/integrations

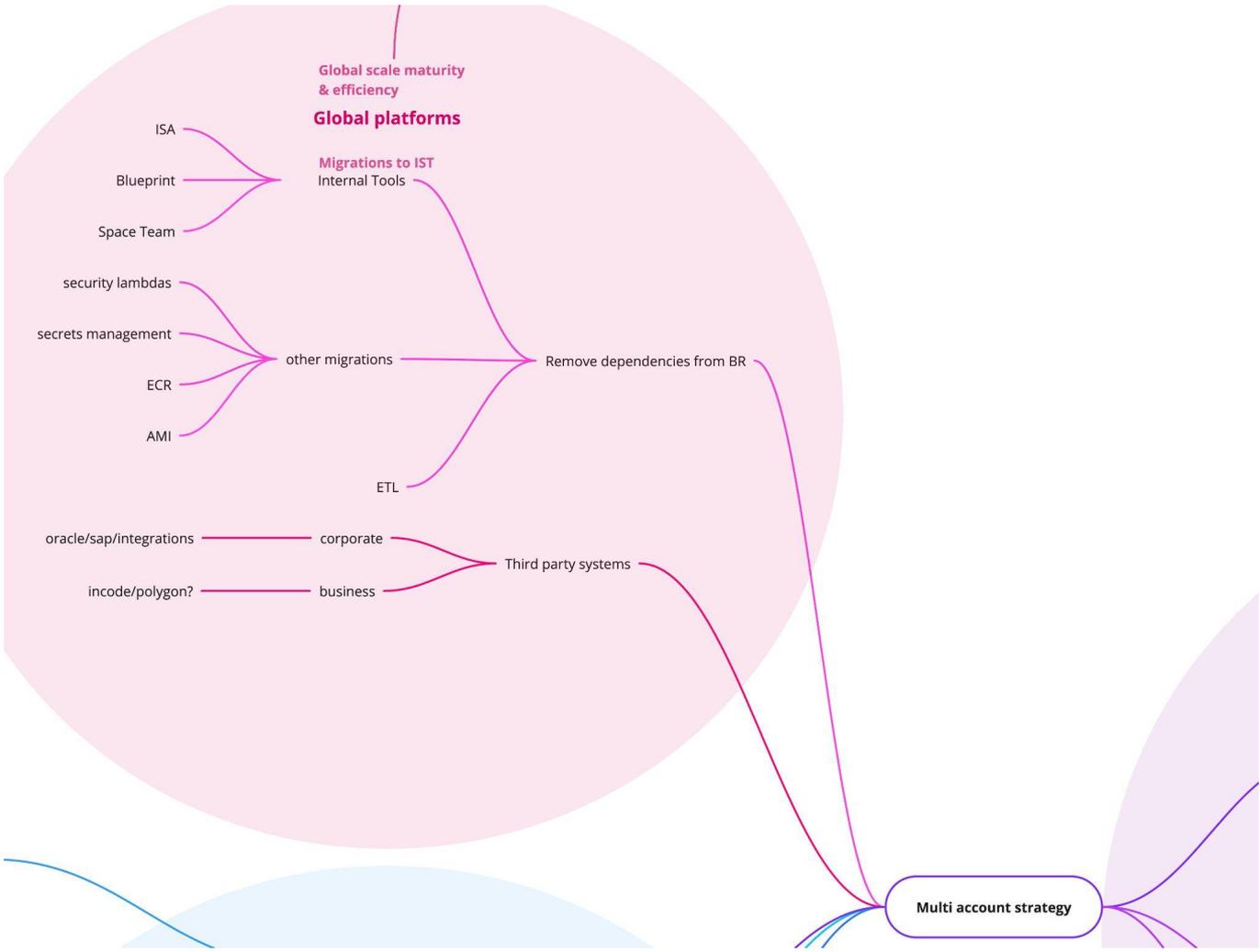
corporate

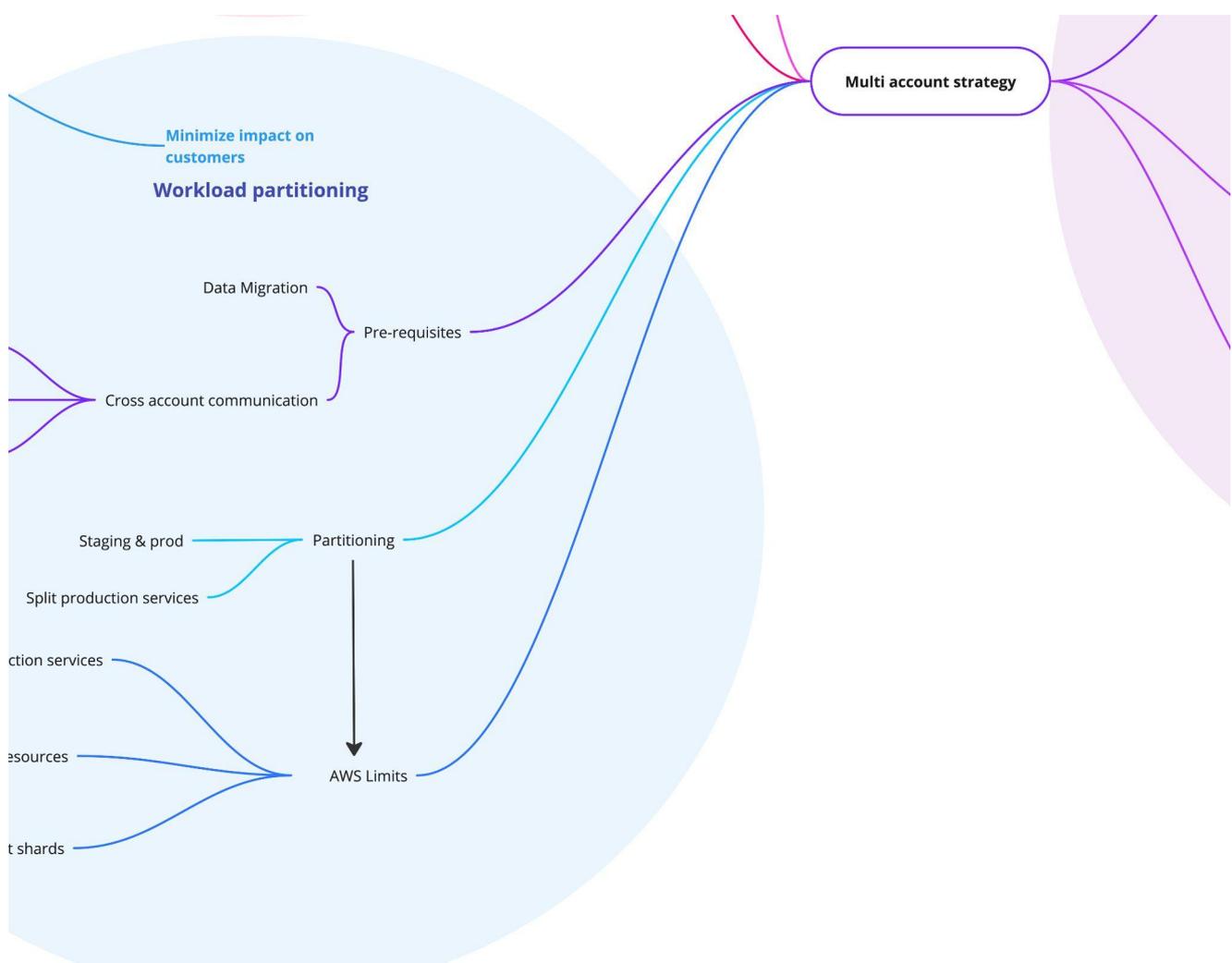
incode/polygon?

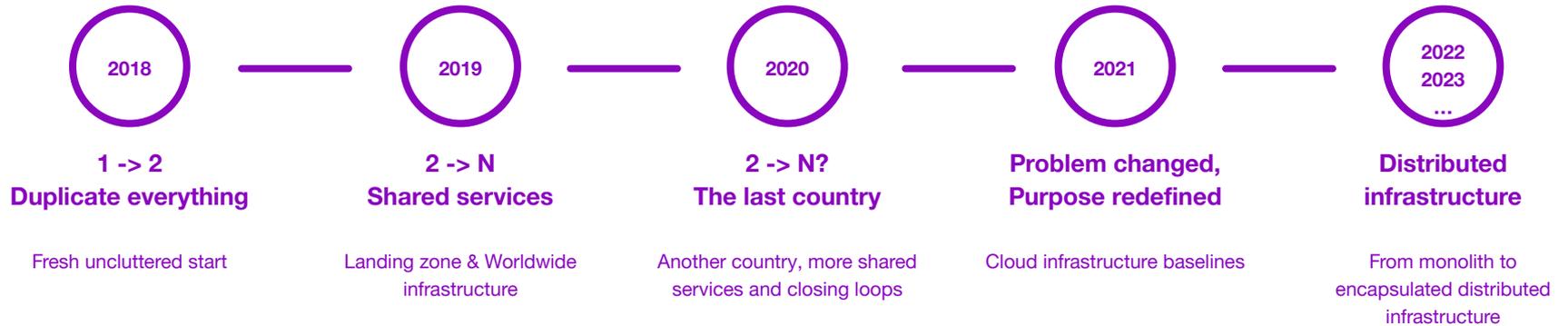
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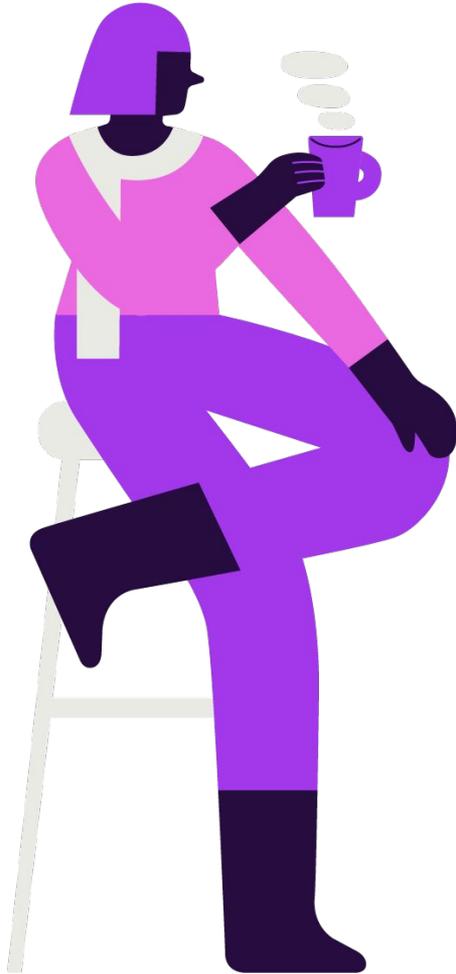
Third party systems

Multi account strategy









Learnings and challenges

My role and personal experience

Influence many teams across the organization

- 1** Make it inspiring
- 2** Visibility and momentum
- 3** Good partners and sponsors



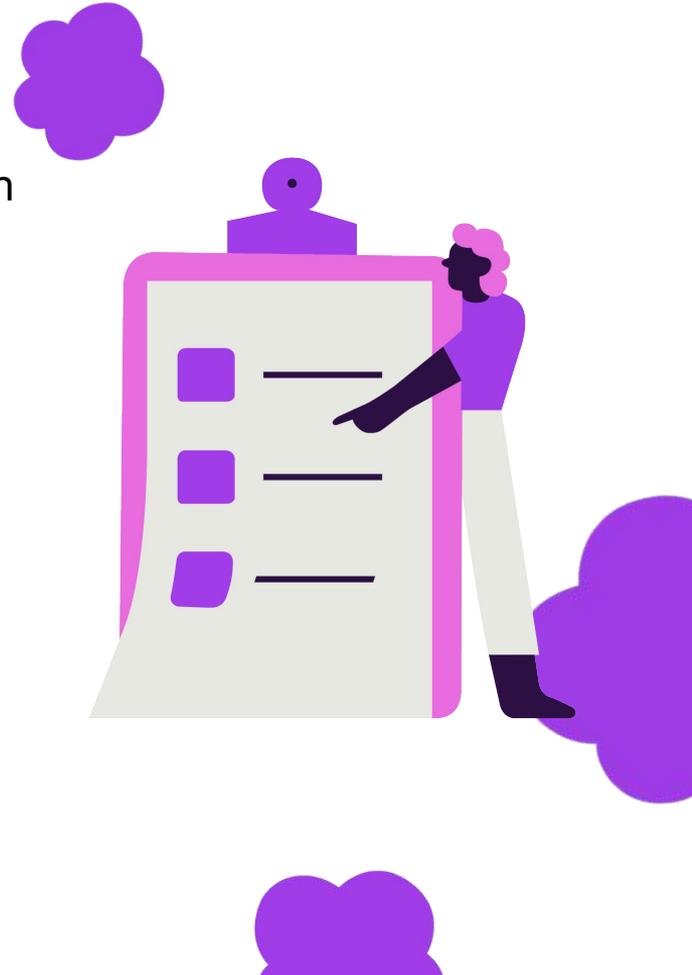


**Lots of people are extremely uncomfortable navigating ambiguous situations and unknowns.
Make the unknown known?**

- 1** Define principles
- 2** Be comfortable, it's temporary
- 3** Take action. Execute!

Execution

- 1** Someone has to be the first to show confidence in going in a certain direction
- 2** Don't follow the plan
- 3** Take things to the finish line



Formalities

What team are you in? Who do you report to?



1 Make agreements

2 Know the organization

3 Don't be intimidated

multi-year architecture



Observing,
understanding and
adapting made a quite
good plan

Thank you!
Obrigada!