



Connecting a Bank

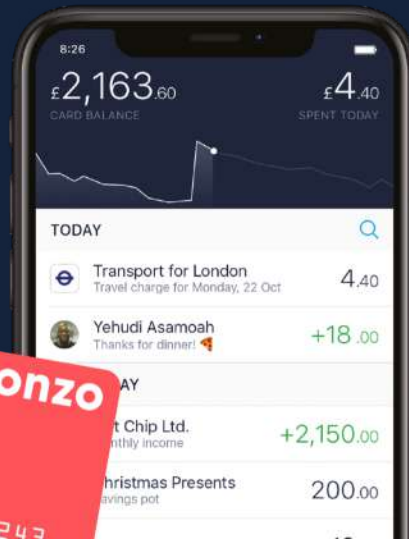
What Open Banking means to Monzo
and how we approach it



Kieran McHugh

Team Lead, Open Banking @ Monzo

 @kieranmch



A bank that lives in your phone

**Our mission is to
make money work for everyone**

We're the fastest growing bank in the UK

The UK's most recommended brand

Over 3,500,000 customers

And over 40,000 people joining every week

We've built it from the ground up

With our own tech stack

A full banking licence since 2017

Today's agenda



Monzo as a Bank



Monzo as a Third Party

Monzo as a Bank

A primer on microservices



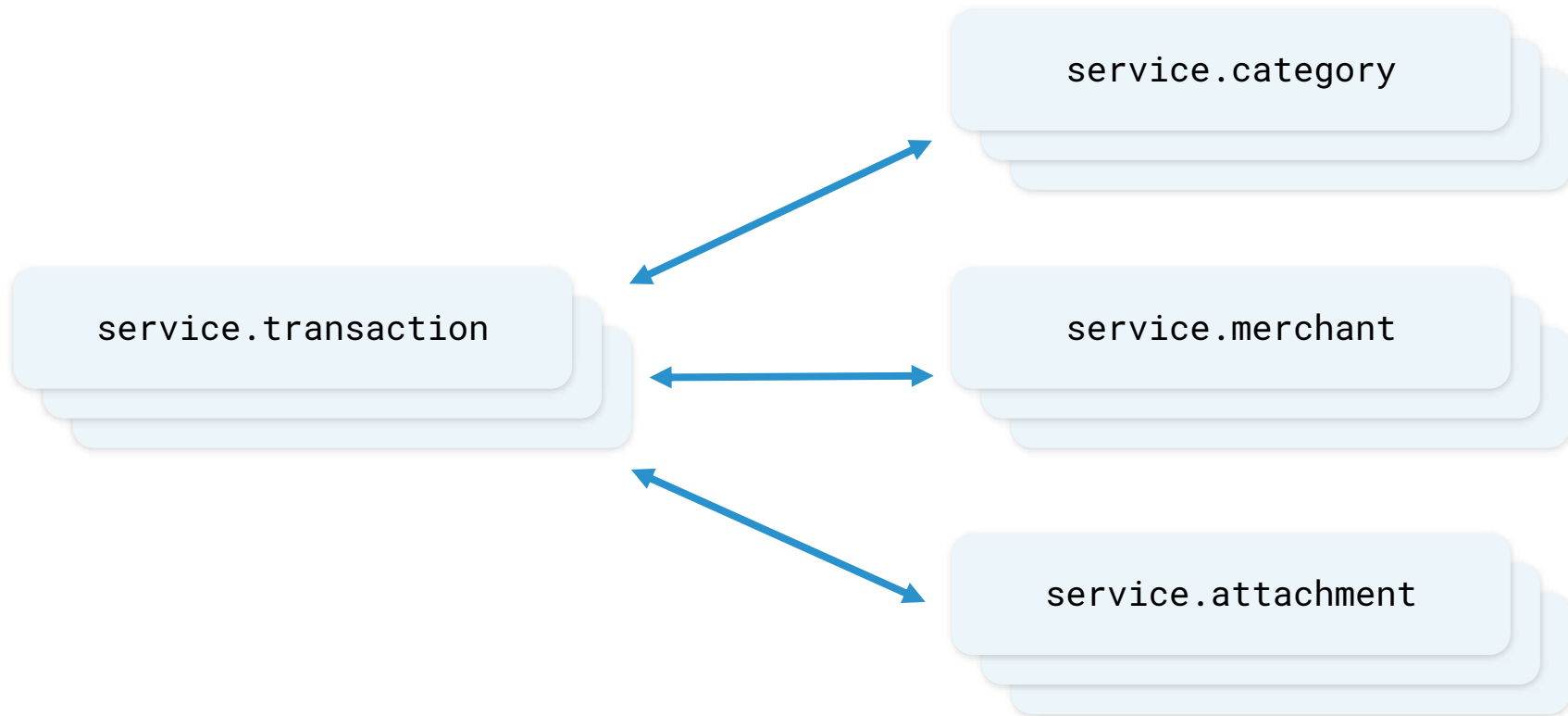
```
service.transaction
```

A primer on microservices

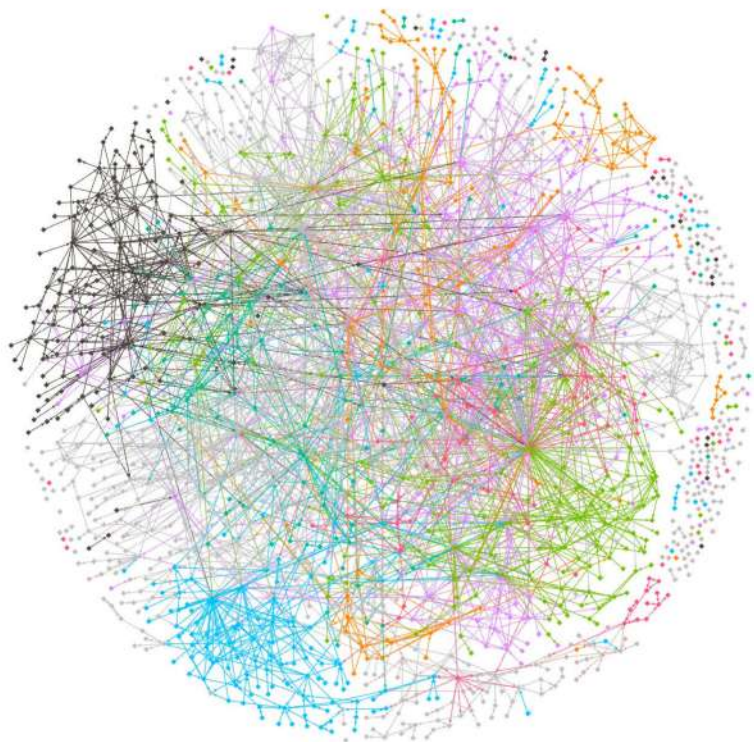


`service.transaction`

A primer on microservices



The Monzo Platform



1,500+ microservices

~300,000 req/sec



**4 years
ago...**

 **Hello, PSD2!**

Account Information Services API



```
http "https://api.monzo.com/transactions/$transaction_id" \  
  "Authorization: Bearer $access_token" \  
  "expand[]=merchant"  
  
{  
  "transaction": {  
    "account_balance": 13013,  
    "amount": -510,  
    "created": "2015-08-22T12:20:18Z",  
    "currency": "GBP",  
    "description": "THE DE BEAUVOIR DELI C LONDON          GBR",  
    "id": "tx_00008zIcpb1TB4yeIFXMzx",  
    "merchant": {  
      "address": {  
        "address": "98 Southgate Road",  
        "city": "London",  
        "country": "GB",  
        "latitude": 51.54151,  
        "longitude": -0.08482400000002599,  
        "postcode": "N1 3JD",  
        "region": "Greater London"  
      },  
      "created": "2015-08-22T12:20:18Z",  
      "group_id": "grp_00008zIcpbB0aAr7TTP3sv",  
      "id": "merch_00008zIcpbAKE8shBxXUtl",  
      "logo": "https://pbs.twimg.com/profile_images/527043602623389696/68_SgUWJ.jpeg",  
      "emoji": "🍷",  
      "name": "The De Beauvoir Deli Co.",  
      "category": "eating_out"  
    },  
    "metadata": {},  
    "notes": "Salmon sandwich 🍷",  
    "is_load": false,  
    "settled": "2015-08-23T12:20:18Z"
```

Wide usage

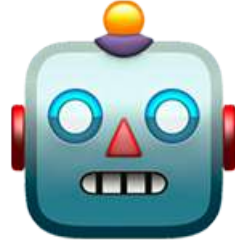


**2,000,000+
req/day**

More to do...



Payment
Initiation



Additional
Endpoints



App to App
& SCA



eIDAS
Support

At a crossroads...



**Expand our
existing bespoke
Monzo-specific
APIs**

OR

**Implement the
Open Banking
Implementation
Entity standards**

Should we adopt the specification?



Easier certification process

Low barrier to entry for new third parties

Clear UX guidelines

Benefit from OBIE services



A lot of work

Complex API design when compared with our approach

Designed for legacy banks

Loss of control

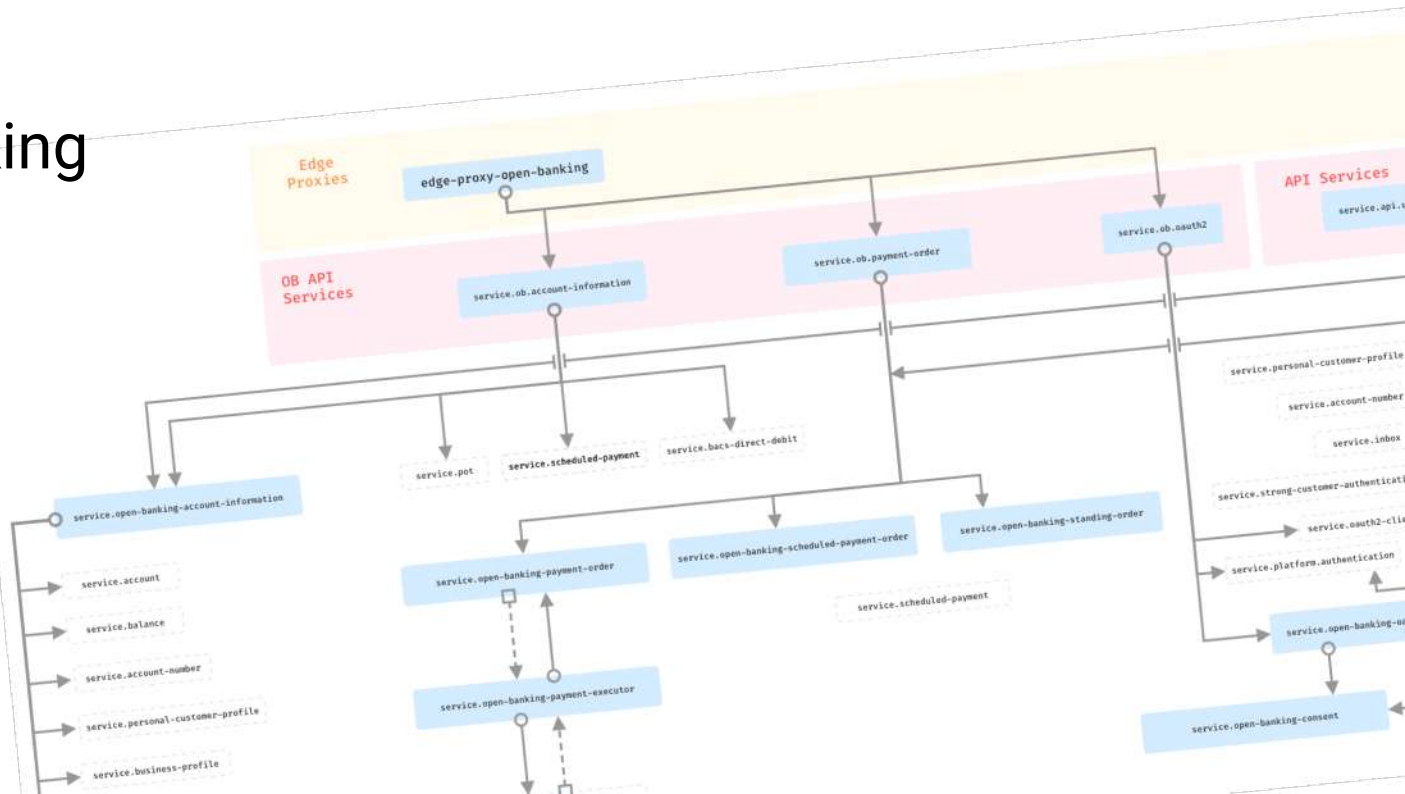
Hello, Open Banking

Our implementation



30+

new Open Banking services



Our own stack: Monzo's secret ingredient



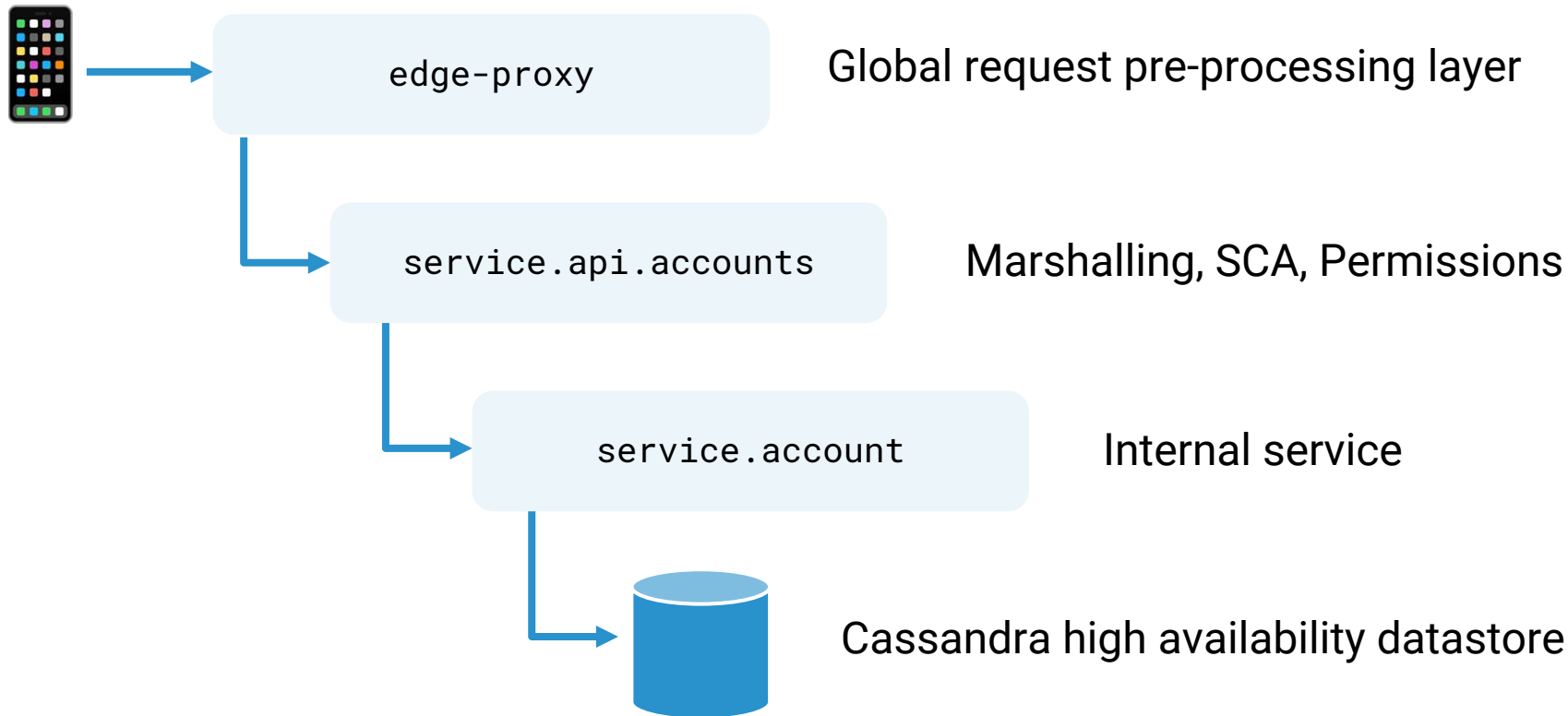
Full **control** of and **visibility**
into our Open Banking
systems at all times

Deep and comprehensive
in-house expertise
on Open Banking

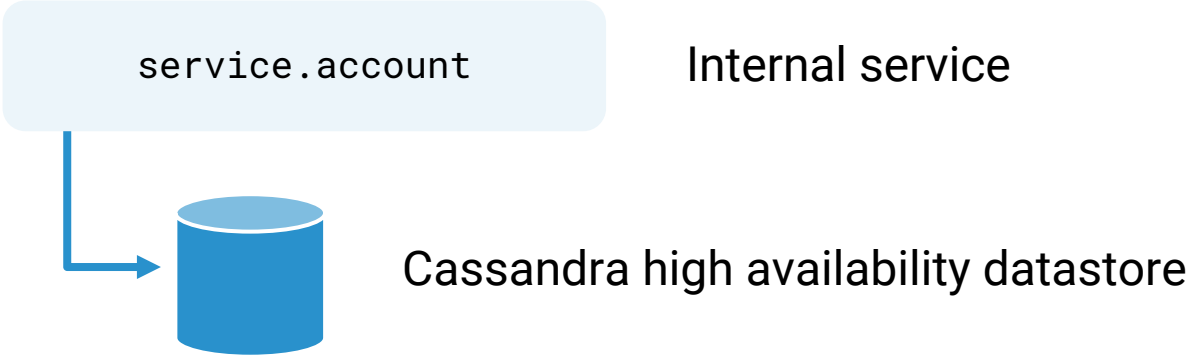
Fast, bureaucracy-free
fixes for any issues as we
find out about them

A **sandbox environment**
that closely mirrors
production

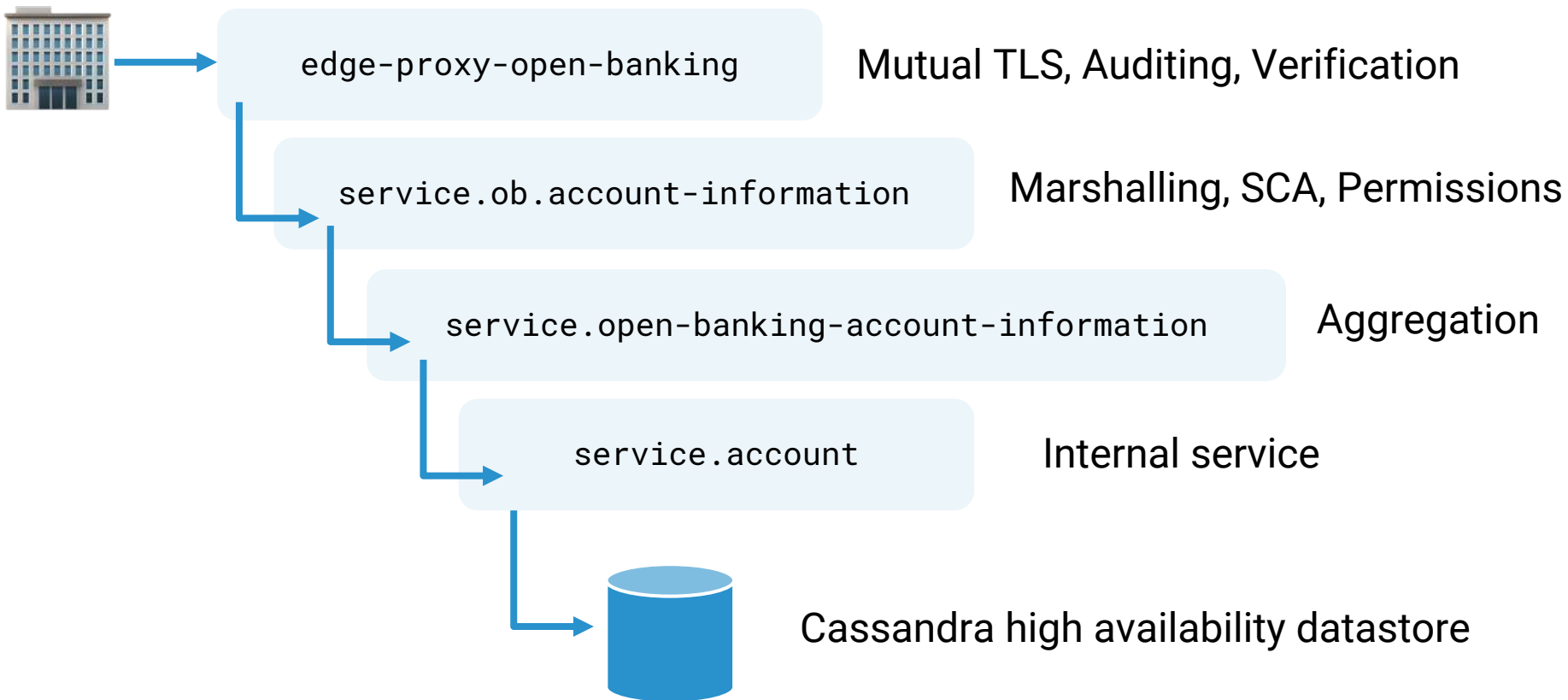
App Plumbing



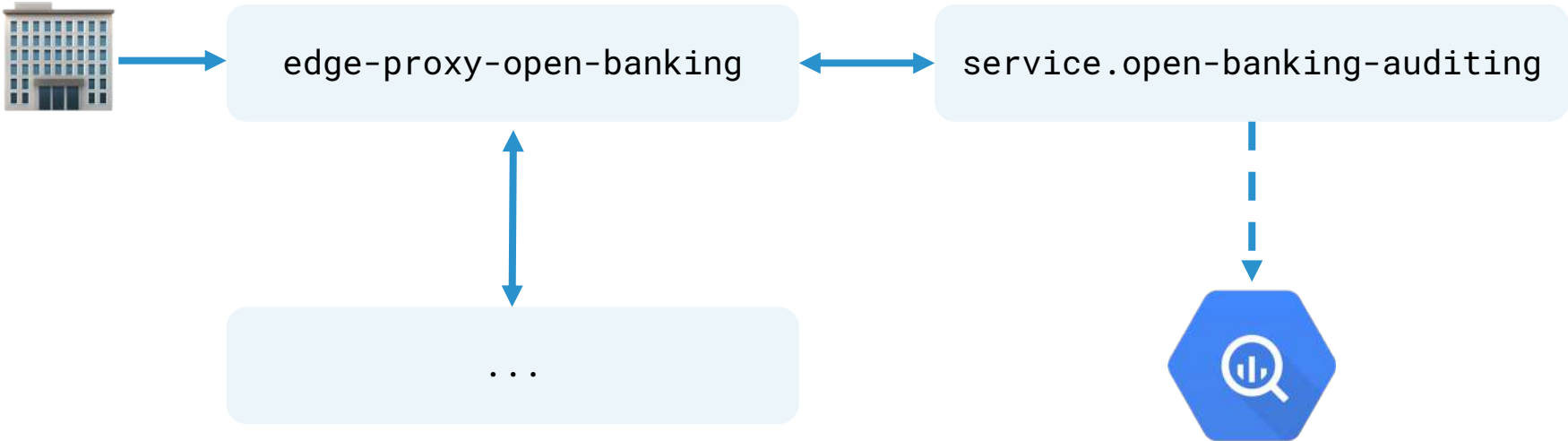
Open Banking Plumbing



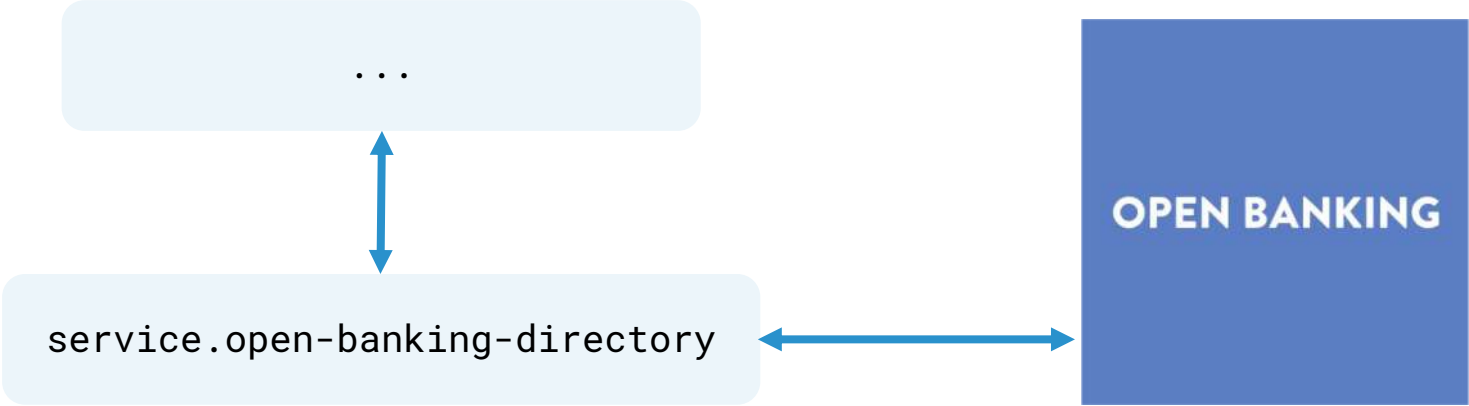
Open Banking Plumbing



Special services



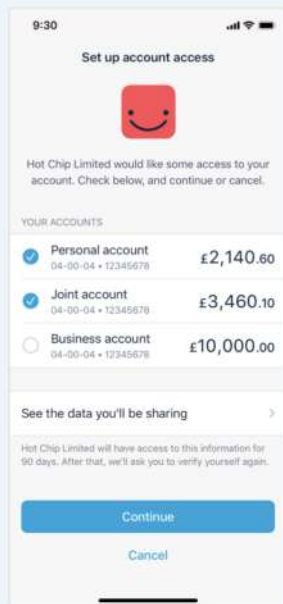
Special services



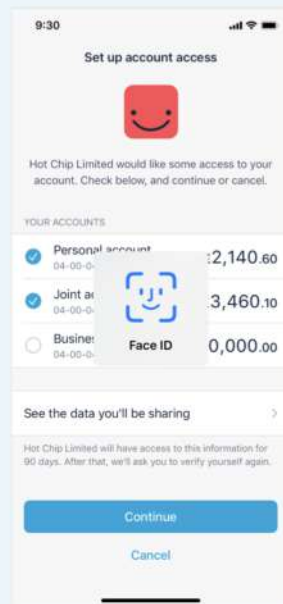
App to App authentication



Step 1 Account selection





Step 2 Authentication using biometrics or PIN entry



Desktop to App authentication



Set up account access

Sample Client would like some access to your accounts.
You'll need to verify yourself in the Monzo app.

Account Number of your Monzo account
12345678



Sort Code of your Monzo account
040004

Email address on your Monzo account

Continue

Monzo Bank Limited is a company registered in England and Wales (No. 09446231). Monzo Bank Ltd is authorised by the Prudential Regulation Authority (PRA) and regulated by the Financial Conduct Authority and the PRA. Our Financial Services Register number is 730427.







Set up account access

Sample Client would like some access to your accounts.
You'll need to verify yourself in the Monzo app.

Now open Monzo

We'll wait for you to verify yourself in the Monzo app. While you do, please keep this page open.



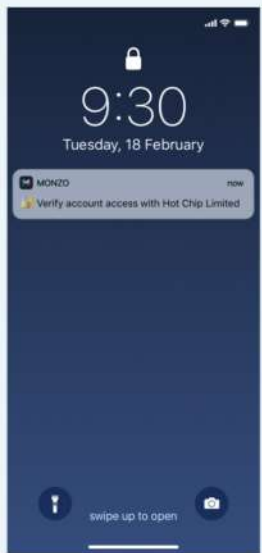
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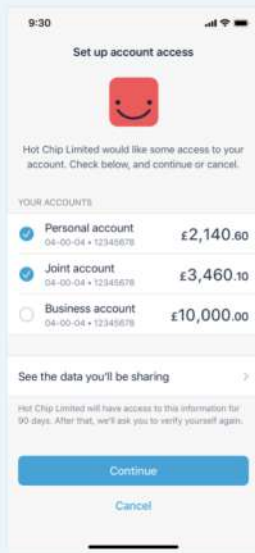
Desktop to App authentication



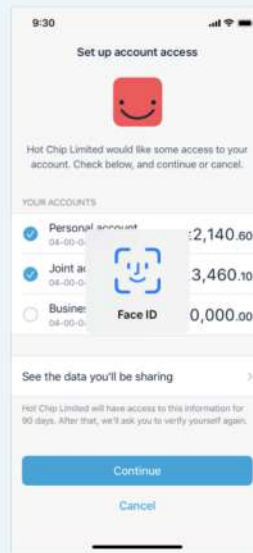
Step 1
System notification



Step 2
Account selection



Step 3
Authentication using biometrics or PIN entry



Strong Customer Authentication



Enrolled
Device



Biometrics
or PIN

Challenges



A big bank's world

Interpreting regulation for Monzo

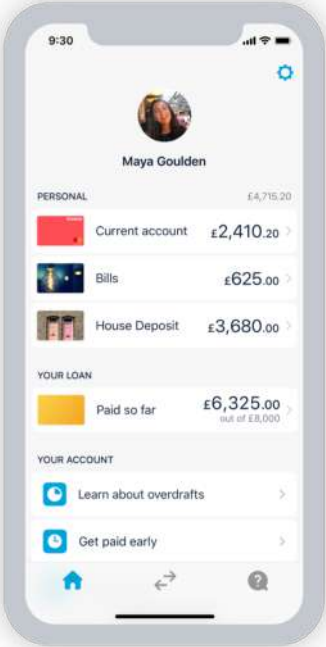
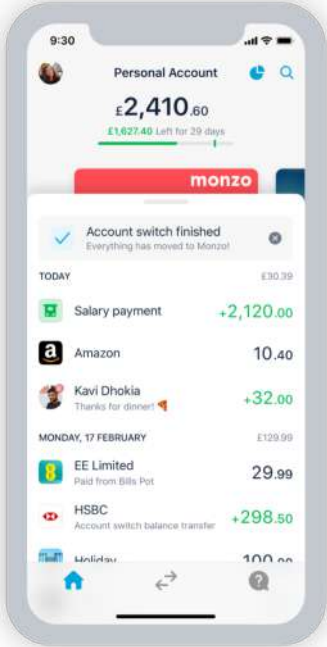
Taking a product-focussed approach

A small team with big ambitions

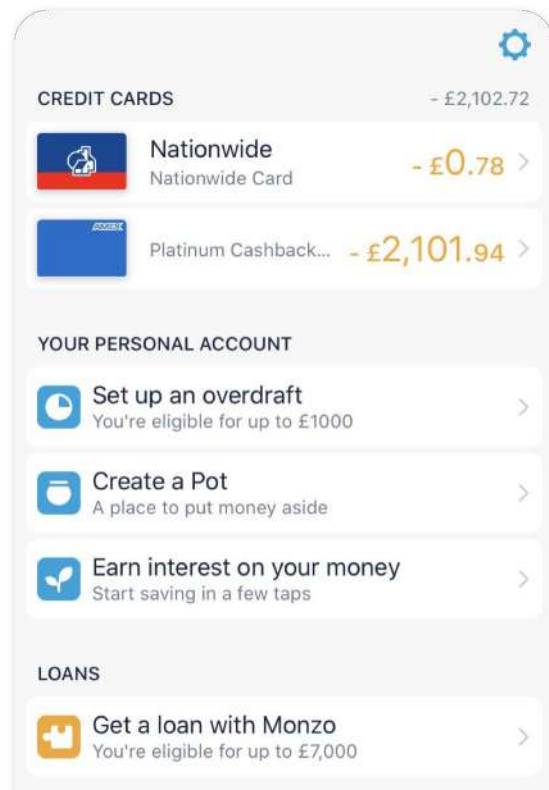
Monzo as a Third Party

**We think Open Banking is a tool,
not a feature**

Laying the foundations with Monzo 3.0

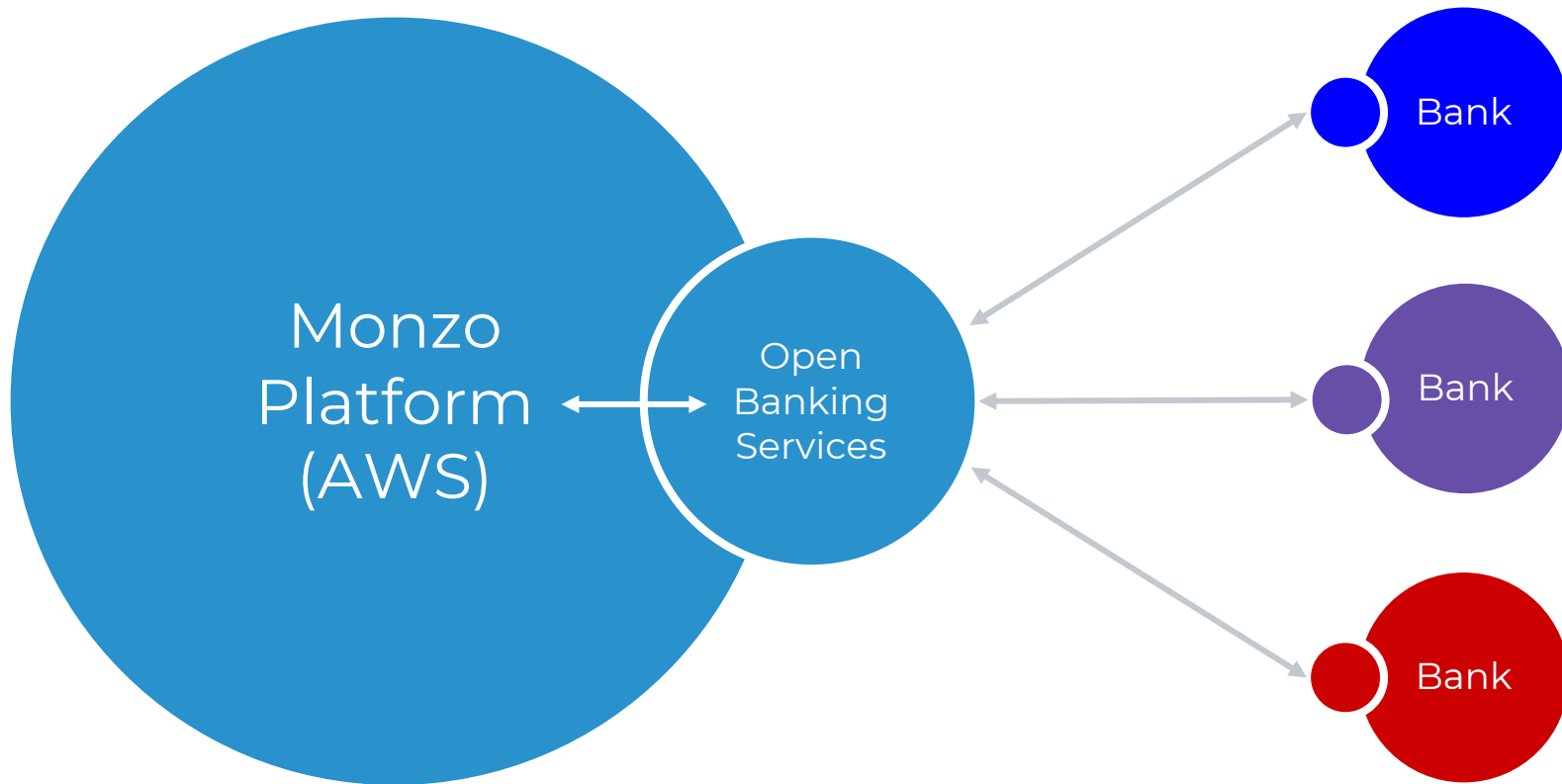


Credit cards in Monzo

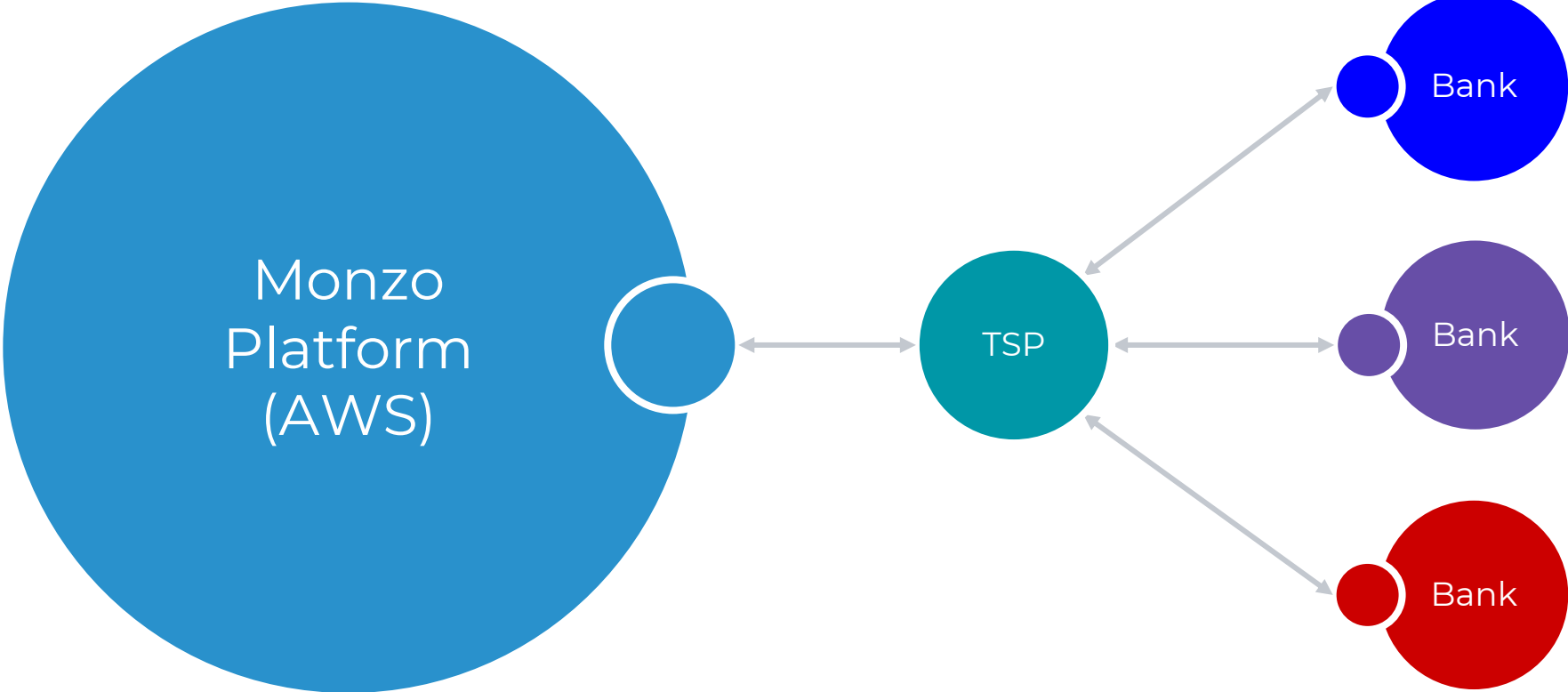


A coherent Open Banking experience for both customers and teams in Monzo

Building an abstraction layer



Technical Service Providers



Building blocks



Infrastructure Services

Connector Service

Session Management Service

Scheduling Service

...

Data Services

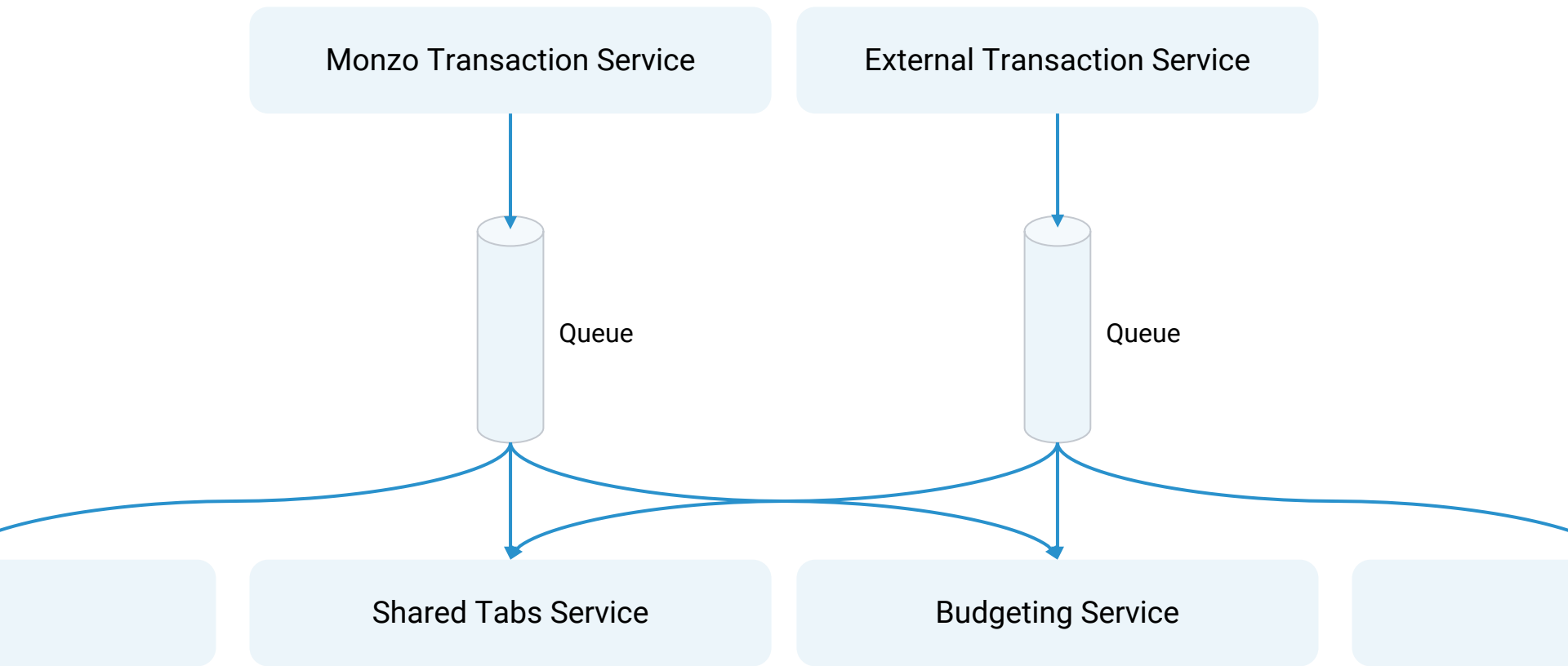
External Transaction Service

External Account Service

External Card Service

...

Events





2020



Kieran McHugh

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 @kieranmch

