

Embracing the service consumption shift in banking

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Agenda

Who are we

Challenges

IMC projects in ING

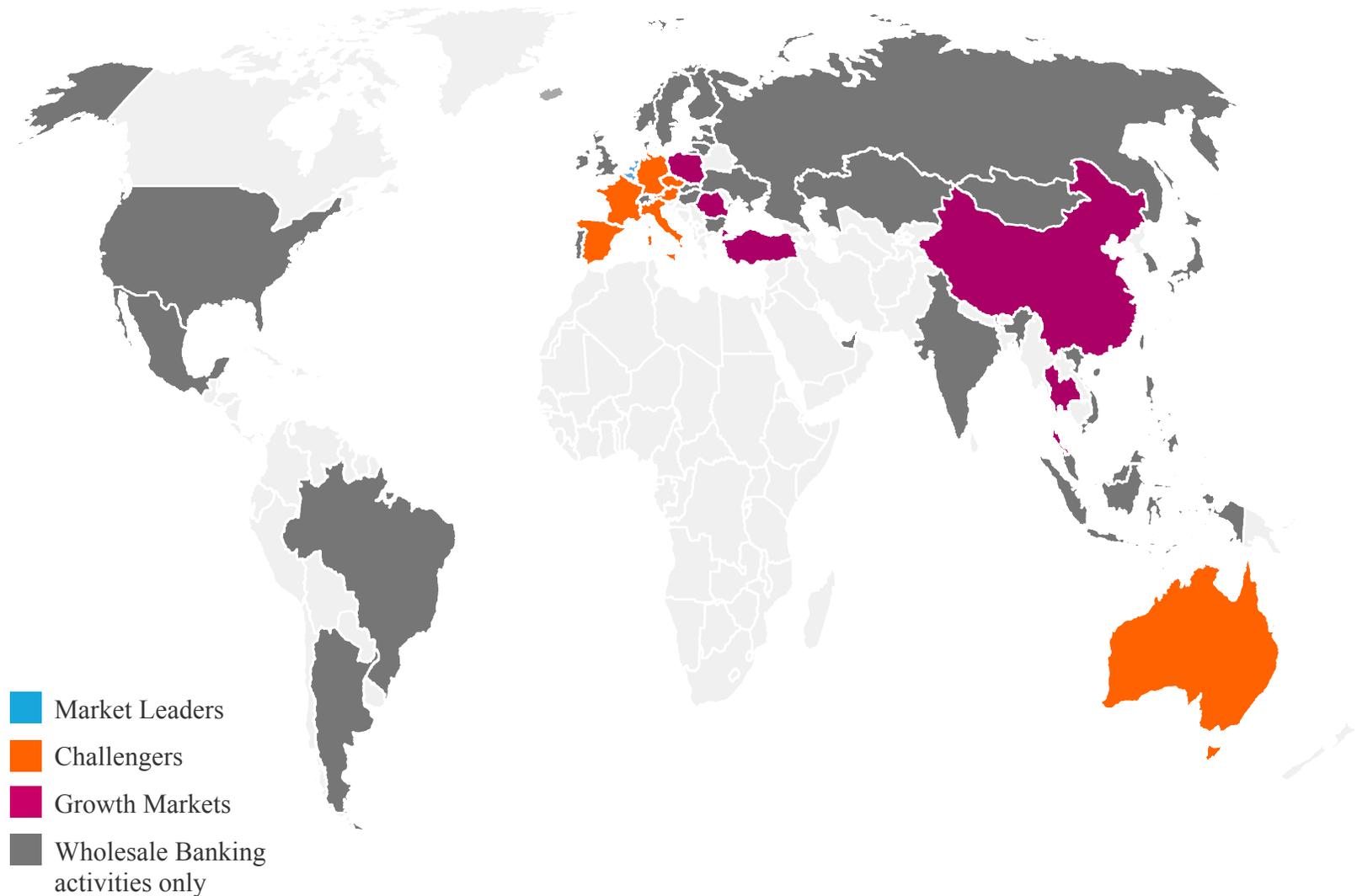
Future

ING Group

“Empowering people to stay a step ahead in life and in business”

Customers : 36 Million

Primary relationships : 10 Million



Our strategy

Purpose



Empowering people to stay a step ahead in life and in business.

Customer Promise



Clear and Easy



Anytime, Anywhere



Empower



Keep Getting Better

Strategic Priorities



Creating a differentiating customer experience

1. Earn the primary relationship
2. Develop analytics skills to understand our customers better
3. Increase the pace of innovation to serve changing customer needs
4. Think beyond traditional banking to develop new services and business models

Enablers



Simplify & Streamline

Operational Excellence

Performance Culture

Lending Capabilities

Legacy of a systemic bank

- ING is more than 40 years old
- Basic banking services (customer information, payments systems) run on mainframe
- Used by many other applications hence making migration complex



Increasing demand for performance and scalability

- Internet Mobile load increases **25% per year**
- **Browser to Mobile** migration showed a 7 fold increase of interactions.
- **Open Banking** : PSD2 and API's exposed to intermediaries (fintechs), scrape data on behalf of the customer.
- Our actual middleware integration results in 200-300 ms. latency.
- Attempts to scale up vertically failed.



Why In-Memory platforms?

- Resilient
- Performant
- Scalable
- Open source (Apache Ignite) with professional support (Gridgain)
- Java
- Promising
- Predictable response time

IMC applications in ING

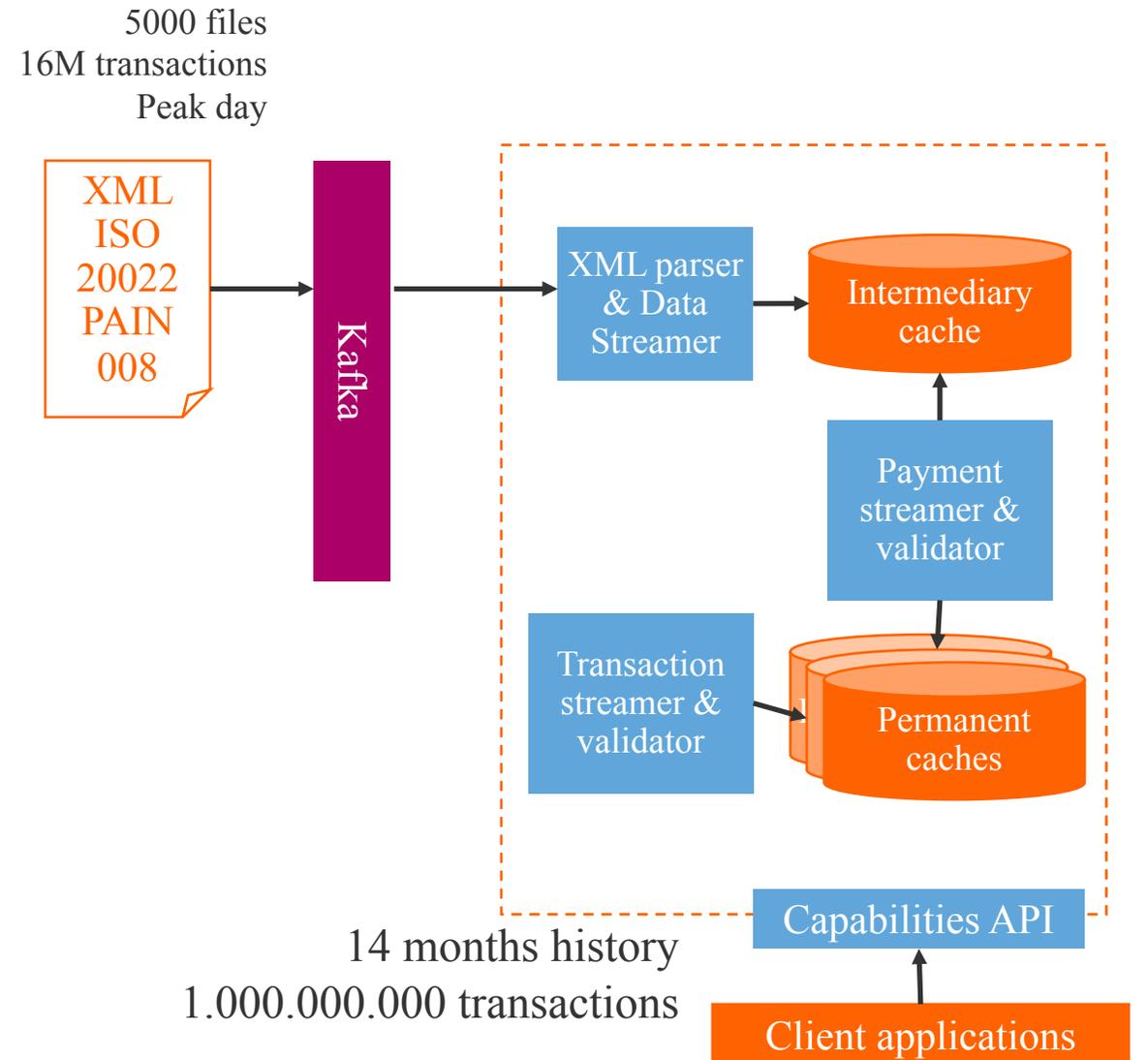
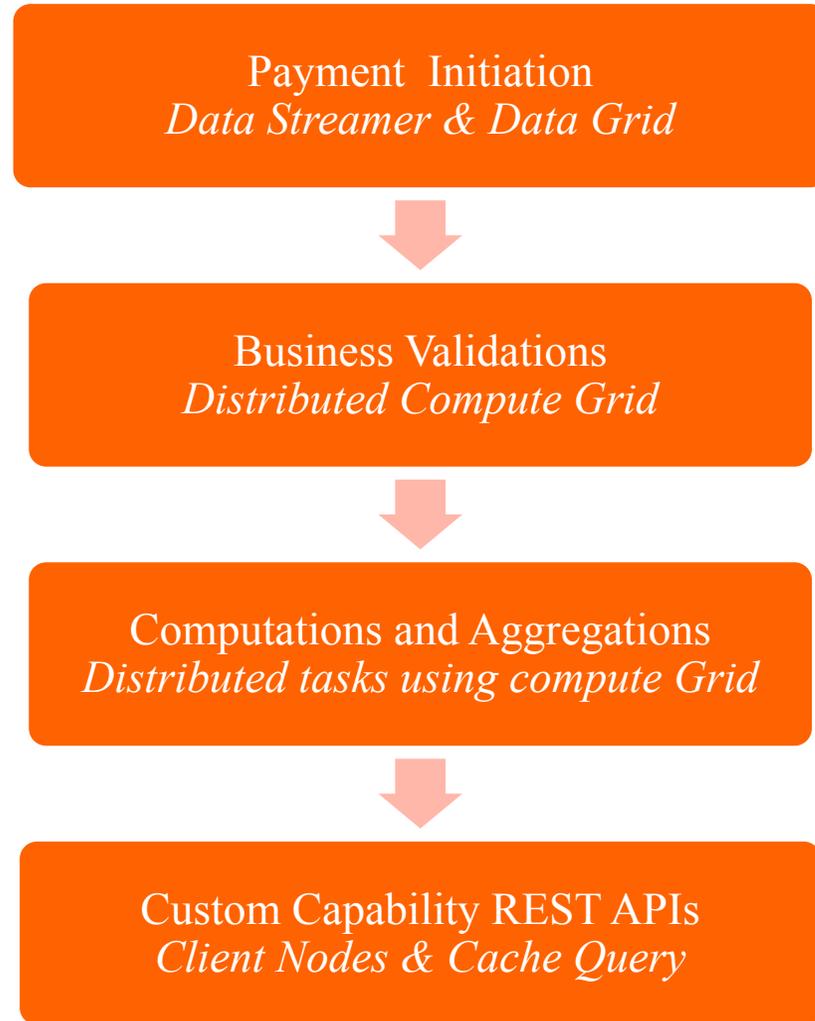


- SEPA DD (compute and data grid)
- MBCR (compute and data grid)
- RTG (compute grid)
- ShieldING (data grid)
- GGaaS

SEPA DD

- Europe-wide Direct Debit system
- Allows merchants to collect payments from accounts
- A Direct Debit authorizes someone (Creditor) to collect payments from your account (Debtor) when they are due
- Direct debits are typically used for recurring payments, such as credit card and utility bills
- Offer **aggressive commercial cut-off times** which also means more payments to be processed in less time
- Offering seamless and easy integration with different **digital channels** & platforms
- Offer **services** via PSD2 platform

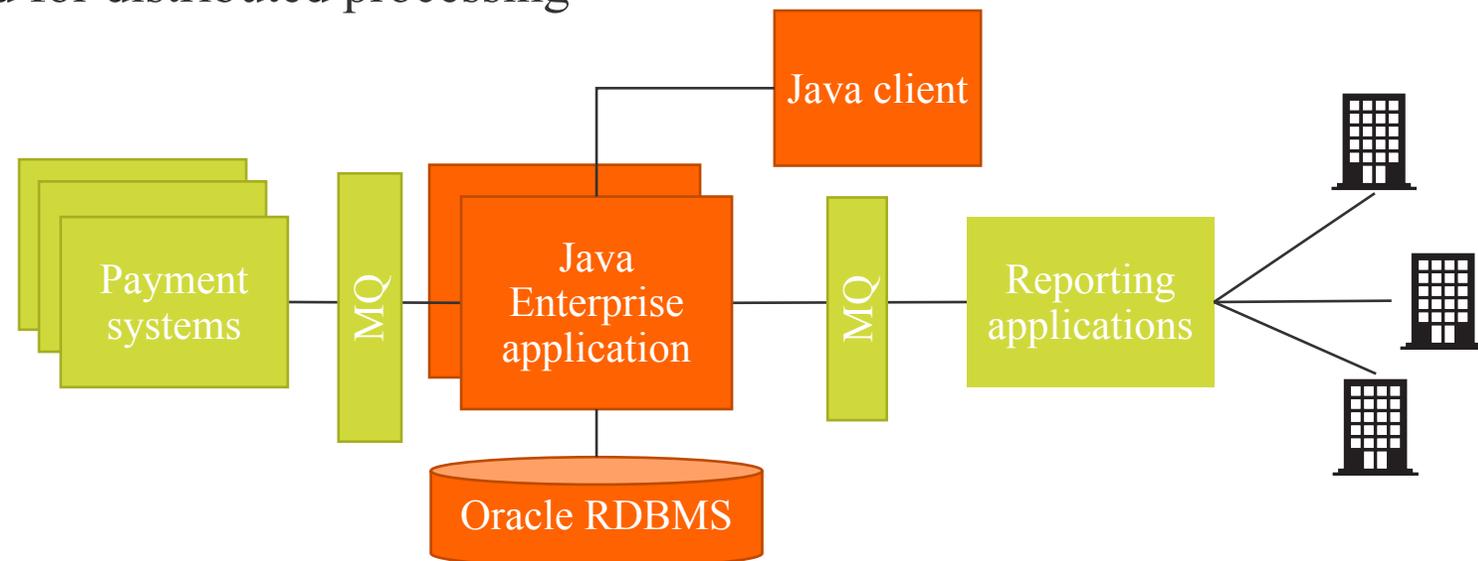
SEPA DD



MBCR

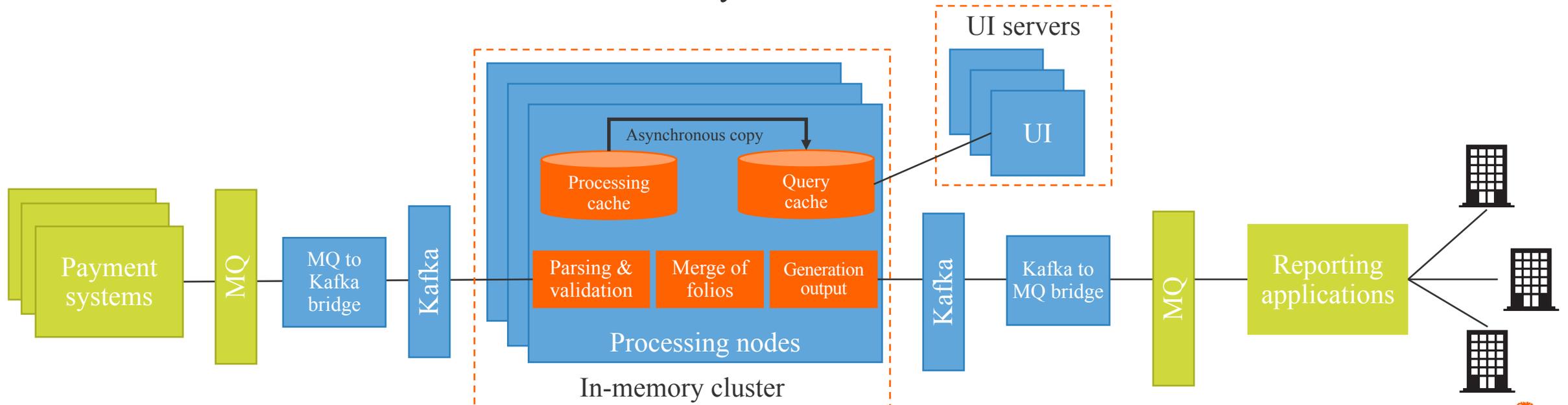
MultiBank Customer Reporting

- Sends to corporate customers the list of their daily transactions
- Full list of transactions received in several folios from payment engines (mt942)
- Folios need to be merged
- Summary of day received in final file (mt940)
- Existing application
 - Based on complex and deprecated vendor framework
 - Not originally designed for distributed processing
 - Not extensible/flexible



MBCR

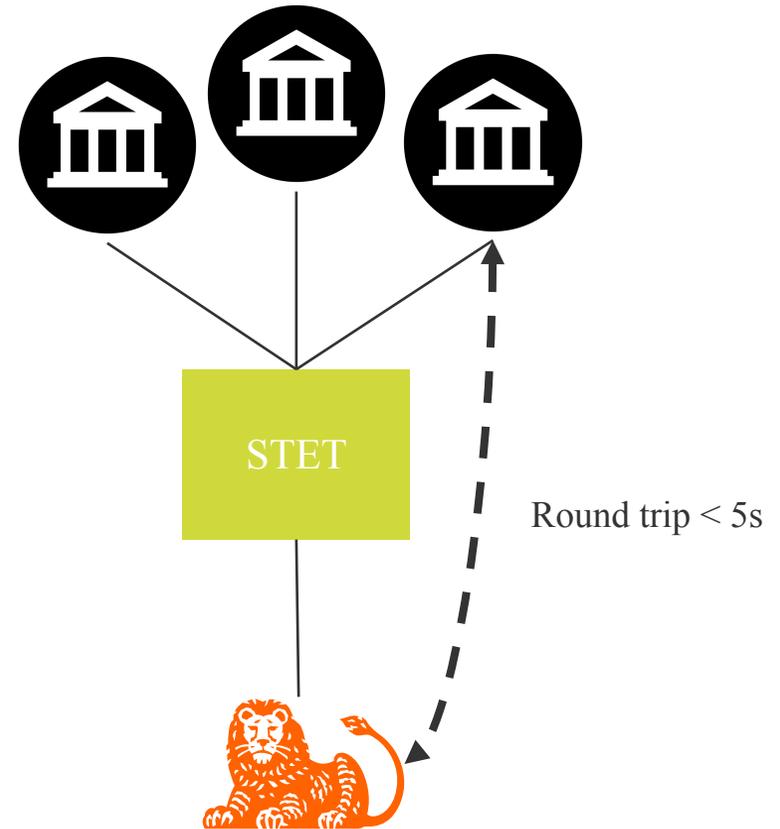
- New version should not impact existing environments
- In-memory compute grid to parse, validate and merge folios
- In-memory data grid to store transaction information
- Caches with different roles
 - Data processing
 - Viewing data
- Reasonable load at start but will dramatically increase in short term



RTG

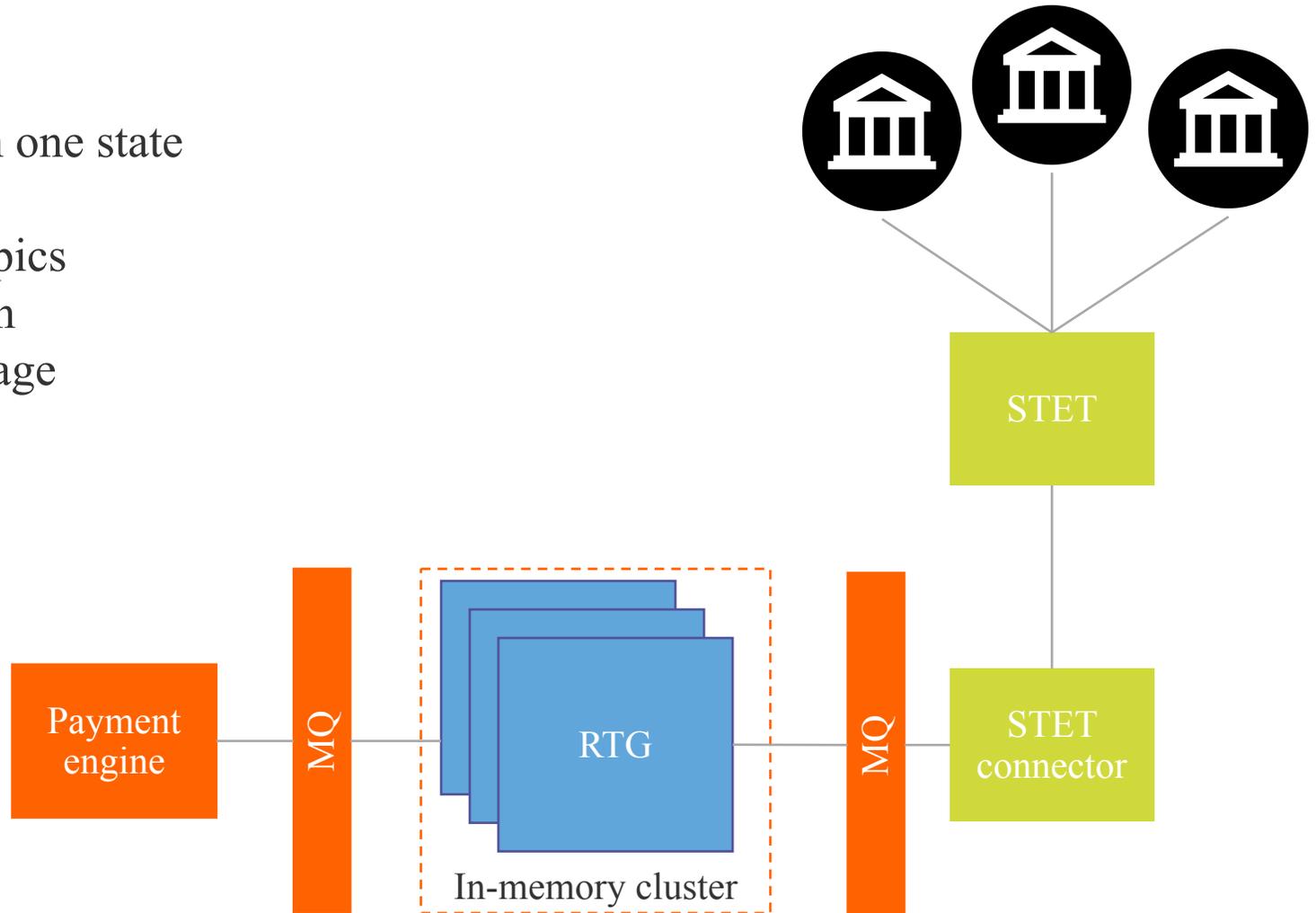
Real Time Gateway

- Instant Payment initiative, real time (debit and credit have to be done within 5s)
- Banks need to connect to a new common router: STET
- No system to connect internal payment application to STET
- Transforms PACS (ISO 20022) into internal COBOL format and vice-versa



RTG

- Ignite event bus to move data from one state to the next
- Implementation based on Ignite topics
- Intensive use of affinity co-location
- In memory computations for message validation and transformation



ShieldING

ShieldING is a set of standardized resilient **data services** with **clear utility** (fit for purpose) and **warranty** (fit for use)

ShieldING focuses on “creating information once (**information centric**), consuming information everywhere (**service centric**) on a **shared platform**

Layer in front of the mainframe with different patterns for different use cases

In depth presentation from Lieven Merckx

<https://www.youtube.com/watch?v=b0Cd52IGWyY>



GGaaS

GridGain as a Service

- Ready made GridGain server node to be deployed in the ING private cloud
- Based on a docker
- Security
 - Secured Administrative Web Console
 - Default Encryption / Authentication / Authorization connections between nodes
- Monitoring
 - Logging send to ELK stack via Kafka
 - “is alive” services
 - Generic dashboard
- Native Persistence Store
 - SAN disk used by the grid



GGaaS container



Application container

Take away

- Change of mind-set compared to basic server & DB architecture
- Still new, not a lot of IMC engineers available on the job market
- Exploring different use cases
- Used also for applications with a low load
- Attractive technology
- Lots of potential

- Still evolving
 - Multi tenancy issues
 - Not adapted for orchestration

Contact



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