Using Event Driven Architecture to Transform Core Banking
Acceleration of digitization:
- Traditional companies are becoming software companies, whether they like it or not!
- Customer experience demands are shifting
- More interaction with machines
- Machines are making simple decisions (and are better at it)

Banking is quickly shifting to meet the challenge. The question is, are they quick enough?
Key Premises

- Customers demand ever better user experience at an increasing pace.
- Regulation is here to stay; "you can’t fight the man".
- We can’t quickly replace legacy with greenfield.
- Finance emits hundreds of events, many worth acting on!
Case Study
The Business Situation of nearly every bank

Rising Mainframe Costs
Rapidly increased over last years. Ongoing increase of + 5% CPU usage per year

More Devices more Channels
80% of online transactions from mobile devices
~60% of overall transactions are read-only request

Slow Innovation
New products and services take months/years to deliver
The business watches fintech with increasing fright

Banks are becoming software companies whether they like it or not, but often their digital product leaves a lot to be desired
High Level Architecture

Application(s)

Read-Path (REST/JSON)

Write-Path (Copybooks...)

Loadbalancer

Mainframe

DB2

Agent z/OS

Agent Linux

Hadoop Cluster

Master Primary

Master Secondary

Node

Microservice

Microservice

Event Hub

Fraud Detection

Existing  New
Cost Savings + Market Leading Capabilities

- 50% reduction in mainframe CPU, 50% reduction in ongoing mainframe cost
- went from planned expansion to reduction in hardware

- Implemented fraud detection capability in 4 weeks, well short of 7 month deadline 😊
- went from planned expansion to reduction in hardware
A Reference Architecture
Logical Components

- **Reactive API Gateway**
  - **Internal**
    - **User/Mobile**
    - **User/Web**
    - **Customer Support**
    - **3rd Party Services**
  - **External**
    - **Apple/Google Push API**

- **Legacy Services**
  - **Transactions**

- **Transaction Svc.**
  - **Transactions**

- **User Svc.**
  - **User / Prefs.**

- **Process Svc.**
  - **Forms**

- **New Service**
  - **New Store**

- **Event Hub**
  - **CDC Replication**
    - **Transactions**

- **Fraud Detection (Analytics)**
  - **Notification Service**
  - **Other Utility Svcs.**

- **Synchronous REST Calls**
  - **Streaming Messages**
Extending to Other Industries: Decouple, Isolate, Hollow, Replace