LiquidShare

Shift to cooperation

ECSDA presentation – 27/11/2018

Thibaud de Maintenant – CEO
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An Industry initiative

Board Members

Anthony Attia
Chairman of the board

CEO of Euronext Paris

Brigitte Daurelle

CEO of Euroclear France, the Netherlands and Belgium

Damien Jamet

Chief of Staff at Société Général Securities

Guillaume Fromont

Senior Advisor at CACEIS

Arnaud De Bresson
Censor

Managing Director at Paris Europlace

Hein Siemerink

CEO of AFS Group

Eric Massart

Investment Director at Caisse des Dépôts
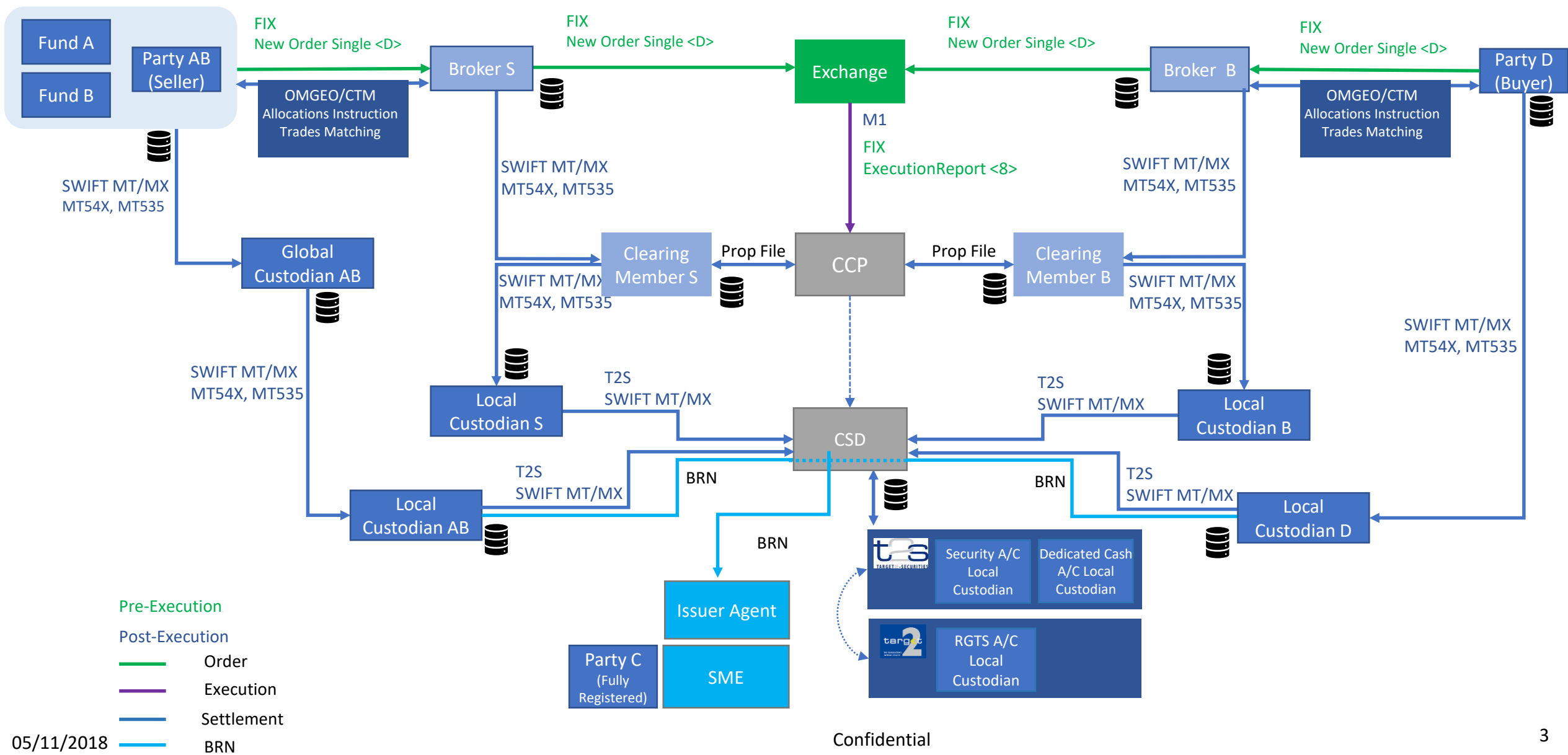
Jean-Pierre Grimaud
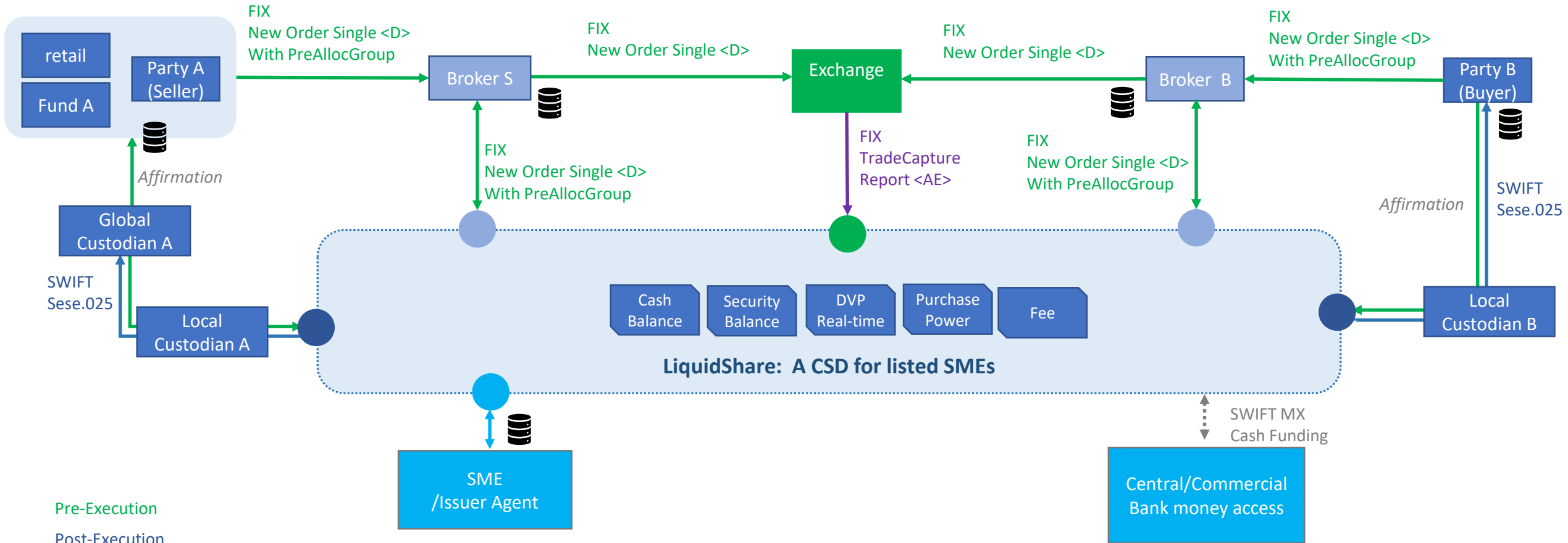
CEO of OFI Asset Management

Philippe Ruault

Head of Digital Transformation at BP2S

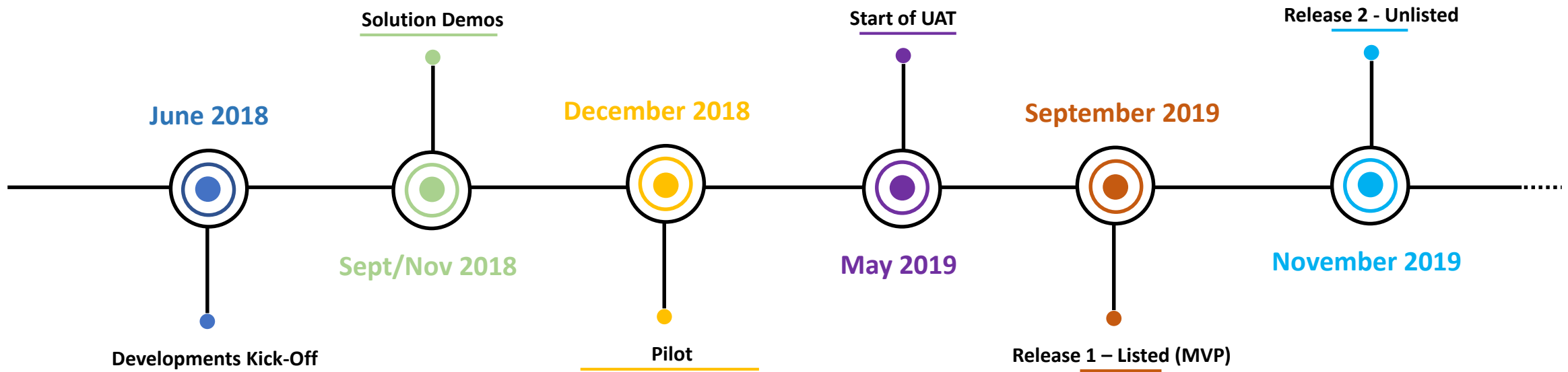Existing infrastructure: a convoluted process for listed SMEs

LiquidShare infrastructure: simplified process built for listed SME

retail
Fund A
Party A (Seller)

FIX
New Order Single <D>
With PreAllocGroup

Broker S

FIX
New Order Single <D>

Exchange

FIX
New Order Single <D>

Broker B

FIX
New Order Single <D>
With PreAllocGroup

Party B (Buyer)

Affirmation

Global Custodian A

FIX
New Order Single <D>
With PreAllocGroup

FIX
TradeCapture
Report <AE>

FIX
New Order Single <D>
With PreAllocGroup

Affirmation

SWIFT
Sese.025

SWIFT
Sese.025

Local Custodian A

Cash Balance

Security Balance

DVP Real-time

Purchase Power

Fee

Local Custodian B

LiquidShare: A CSD for listed SMEs

SME /Issuer Agent

SWIFT MX
Cash Funding

Central/Commercial Bank money access

Pre-Execution

Post-Execution

Order

Execution

Real-Time Settlement

Shareholders base

Smart Contract in the blokchain

LiquidShare roadmap

June 2018

Sept/Nov 2018

December 2018

May 2019

September 2019

November 2019

Solution Demos

Start of UAT

Release 2 - Unlisted

Developments Kick-Off

Pilot

Release 1 – Listed (MVP)

Release 1

⁙ Migration and go-live with Minimum Viable Product (MVP) for listed securities

Release 2

⁙ Unlisted securities, Security Token Offering

Confidential

Overview

USER INTERFACES

⁙ Custodian/Asset Manager/Broker/ SME web UI

⁙ Angular/TypeScript/GraphQL

BACK-END
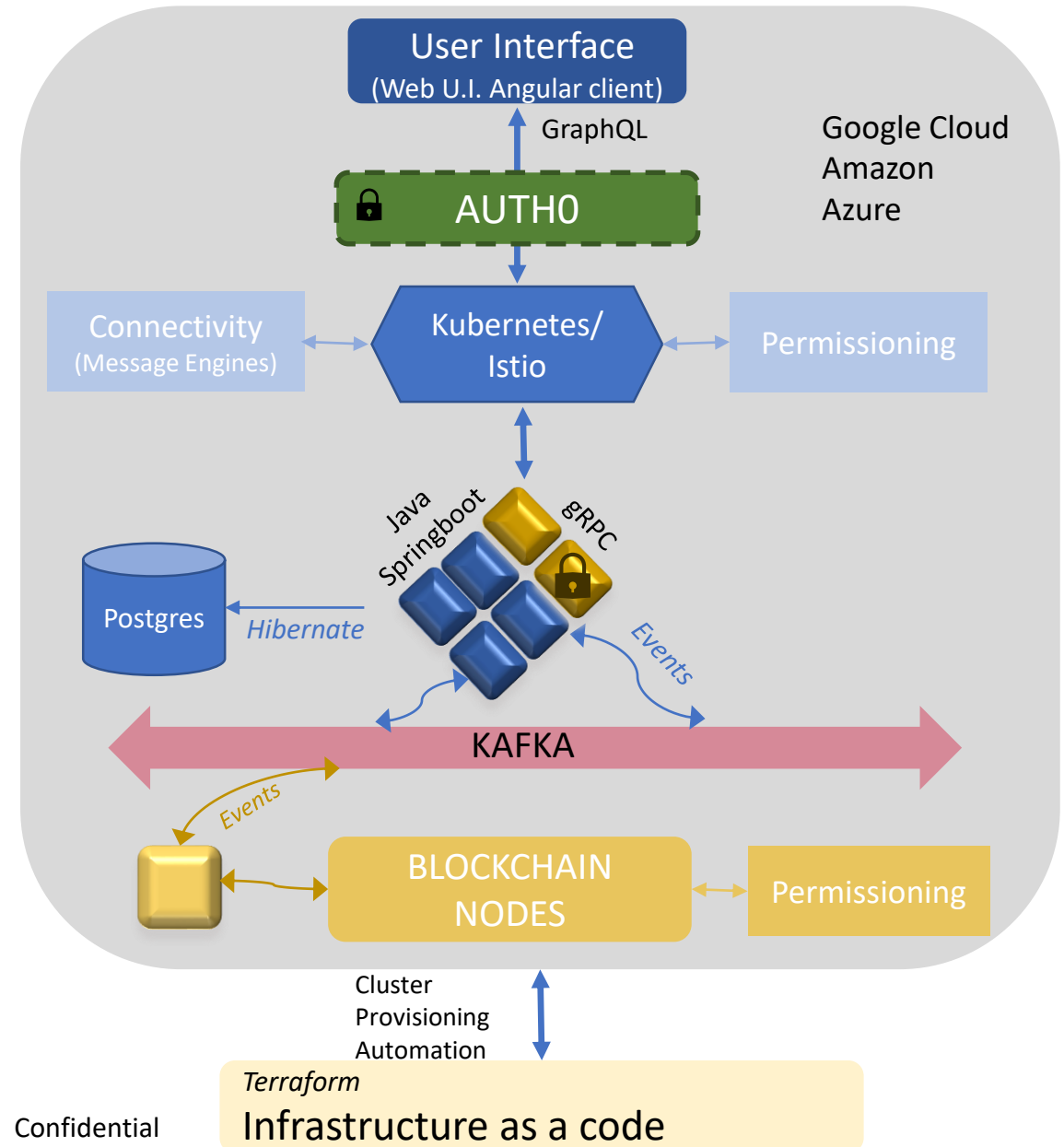
⁙ Position/Fee/Trade/Payment/Static Data Micro-services

⁙ Java/PostGres/Kafka (Messaging Middle-ware)

⁙ Auth0 (Identity Provider)

BLOCKCHAIN

⁙ Parity Clients, Consensus PBFT
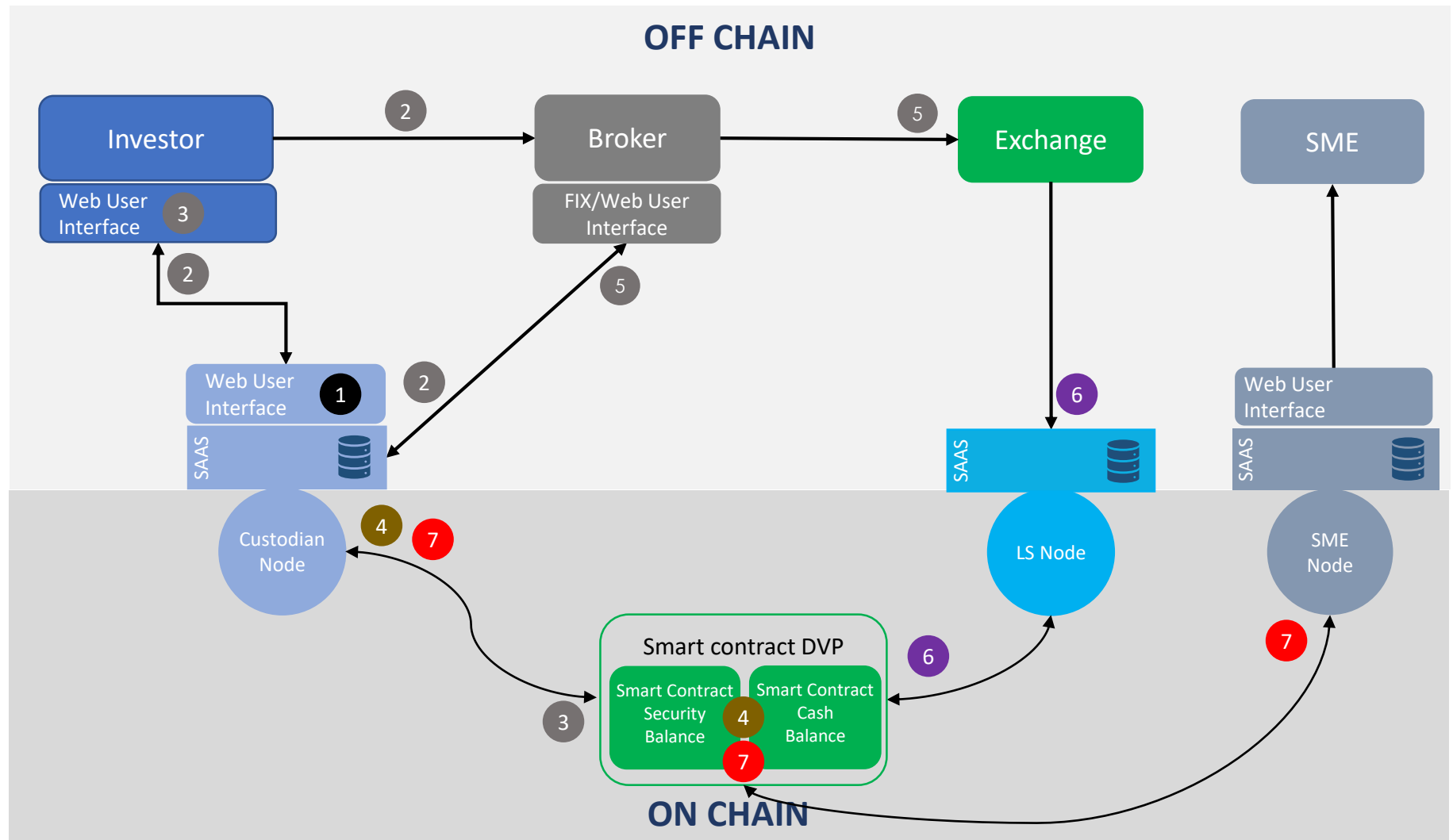
⁙ Permissioned Blockchain

INFRASTRUCTURE

⁙ DEV/QA/PROD environments on AWS

⁙ Script to automate the provision of cluster in a few minutes

Confidential

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MVP Functional model

Custodians account creation and public key generation

Order sent to the broker using FIX connectivity and routed to investor for affirmation

Order affirmed by the Investor and sent to the blockchain

Reservation of the shares or cash in the smart contract and confirmation of successful reservation

Transfer of the valid order

Execution sent by the Exchange to the blockchain

DVP performed at execution level. Confirmation of successful settlement and SMEs' real-time view at investor / custodian level

OFF CHAIN

Investor

Web User Interface

Broker

FIX/Web User Interface

Exchange

SME

SAAS

Web User Interface

Custodian Node

LS Node

SME Node

Web User Interface

SAAS

SAAS

Smart contract DVP

Smart Contract Security Balance

Smart Contract Cash Balance

ON CHAIN

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