

TeleTrust-Informationstag "Blockchain"

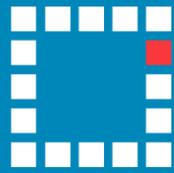
Frankfurt a.M., 13.07.2017

B2B Marketplace Platform

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Dr. Michael Kuperberg, DB Systel GmbH

Bertalan Vecsei, DB Systel GmbH



D_BLOCKCHAIN

 **TeleTrust**
Pioneers in IT security.



B2B Marketplace Platform



Very Special Thanks to Sama Partners for the Sponsorship of our Participation at the
SAMA PARTNERS TeleTrust Blockchain Conference on the 13th of July, Frankfurt am Main.

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Agenda



1. Motivation & Use Case Introduction
2. UI / UX
3. Blockchain Benefits & Concerns
4. Blockchain Maturity
5. B2B Market Scenario
6. Technology Stack
7. Hyperledger Fabric Challenges
8. Q&A



Steffen Ortolf

Blockchain, AI & IoT Engagement Manager at Deutsche Bahn



Dr. Michael Kuperberg

Lead Blockchain Architect at Deutsche Bahn

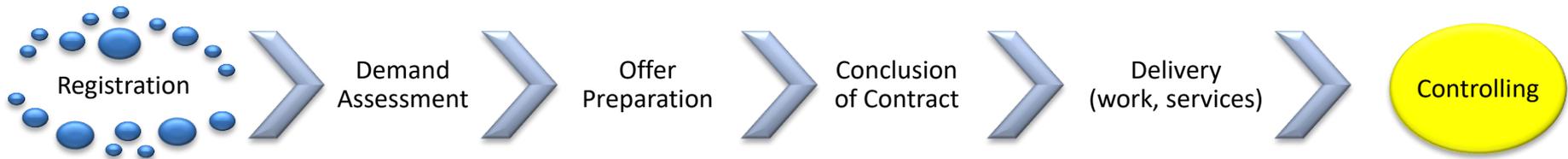


Bertalan Vecsei

External Blockchain Architect at Deutsche Bahn

1. Motivation & Use Case Introduction

- Service procurement within an existing commercial relationship, for pay-as-you-go and fixed-scope services



- **Streamlining the process – disruptive if beneficial**
- End-user first: satisfaction in browser, on mobile devices, in Windows 10 apps
- **Standardization, eliminating legacy dependencies and interfaces**
- **Trustworthy** contract lifecycle and replicated storage; automation
- **Transparency, auditability, improvement of *business performance***
- **Blockchain for trust, out-of-the-box security: non-repudiation, tampering protection, etc.**
- Marketplace approach and a "platform" with high reuse potential
- Initial release: two *internal* business units (ca. 15 users), simple onboarding
- Vision: Blockchain Smart Contracts to trigger payments once these are due

2. UI / UX (Early Examples)

Vorgänge

Josephine Pearson

Search project Export Overview as PDF

Status	Name	Rolle	Vorgangsnr.	Budget	Vertrags-Partner	Stand
overdue	Project Alpha	Bedarfsträger	231412	400k	DB Fantasy GmbH	-
wartet	Beam me up	Bedarfsträger	123412	1500k	DB Energie GmbH	-
Angebot liegt vor	Materium Imperium	Bedarfsträger	32455243	1745k	DB Vertrieb GmbH	-
in progress	Beyond beyoncé	Bedarfsträger	12344321	300k	DB Fernverkehr AG	55%
in progress	Zero Zero	Bedarfsträger	12341324	20k	DB Regio AG	36%
in progress	Liberty beyoncé	Unterzeichner	24134312	14k	DB Regio AG	55%

+ Neuen Bedarf erstellen

Backend Development

Process-ID: 2342 1234 1

Verhandlung Report

Quick - Briefing:
You might be used to pulling up a chair to your computer, but it makes much more sense to pull your computer up to your chair. You might be used to pulling up a chair to your computer, but it makes much more sense.

Budget: 50k
Deadline: 31. Dez. 2017
Priority: medium

Project Progress

85

Projekt Status

95

Time to Budget

Bilanz 17.01.2017

Ausgaben: 1.2k
Balance: +12%

Export Full Report as PDF

Contact Project Responsables

Project Change

Export Full Report as CSV

Input Data

Backend Development

Process-ID: 2342 1234 1

Verhandlung Report

Angebot

Vincent Jefferson 12. Jul 2017 - 12:46

For business professionals caught between high OEM price and mediocre print and graphic output, there's a solution: Business Express's Eclipse line of compatible laser toner cartridges that meet or exceed OEM quality for 20% less than typical OEM price. While even brand name OEMs display "This cartridge may contain recycled components" on packaging.

Preis: 25Pt Documents

Dauer: 18 Wochen Angebot.pdf

Verfügbarkeit: KW 21 / 2PT p.W. Historie

Bedarf

Josephine Pearson 11. Jul 2017 - 14:28:09

For business professionals caught between high OEM price and mediocre print and graphic output, there's a solution: Business Express's Eclipse line of compatible laser toner cartridges that meet or exceed OEM quality for 20% less than typical OEM price. While even brand name OEMs display "This cartridge may contain recycled components" on packaging.

Budget: 50k Documents

Deadline: 31. Dez. 2017 170415_Backend_Requirements... .pdf

Priority: medium Historie

Bedarf übermittelt

Process-ID: 2342 1234 1

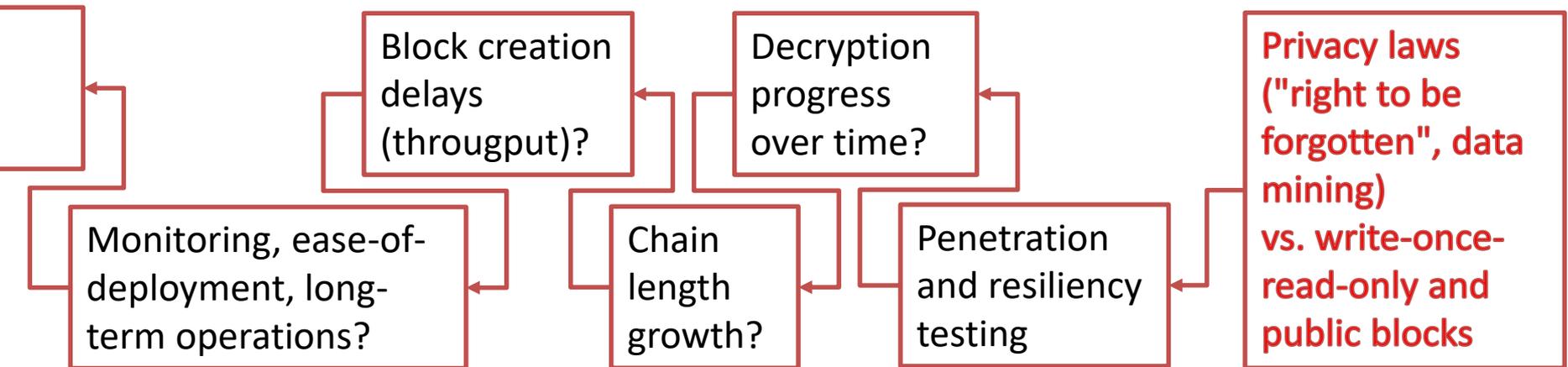
Continue

3. Blockchain Benefits & Concerns

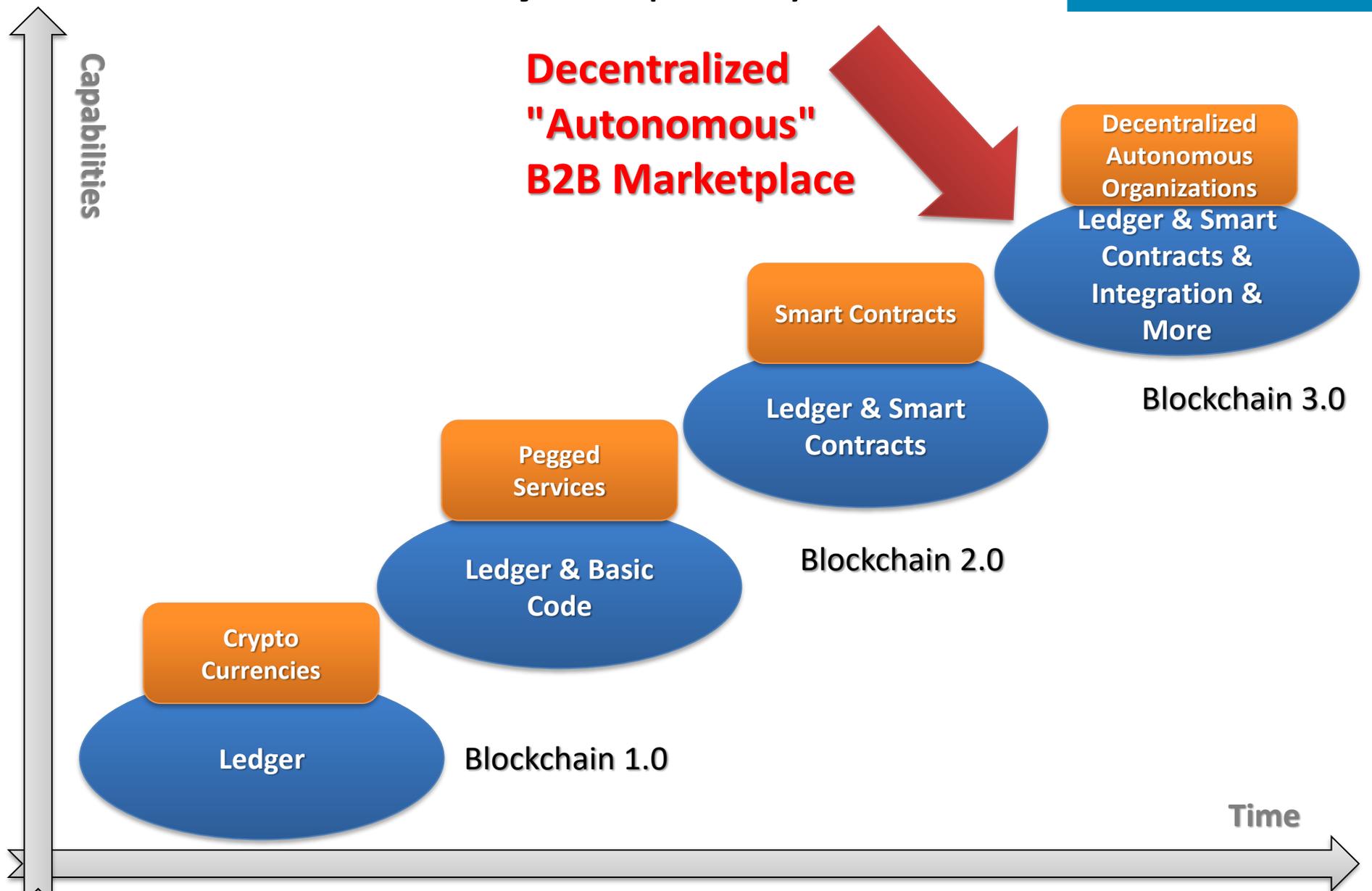
- Replication, cryptography out-of-the-box – but without guarantees! Efficiency, speed?
- Initially "Swedish tax records" approach to privacy, unlike in traditional integration tools
- Early/hyped technology: cryptoassets (Bitcoin, ...) are the major public application → project risk, moving target
- Integration into orchestrators and of third-party systems: major challenge (cf. self-scheduling, endorsement, transactions/rollbacks, interfaces)



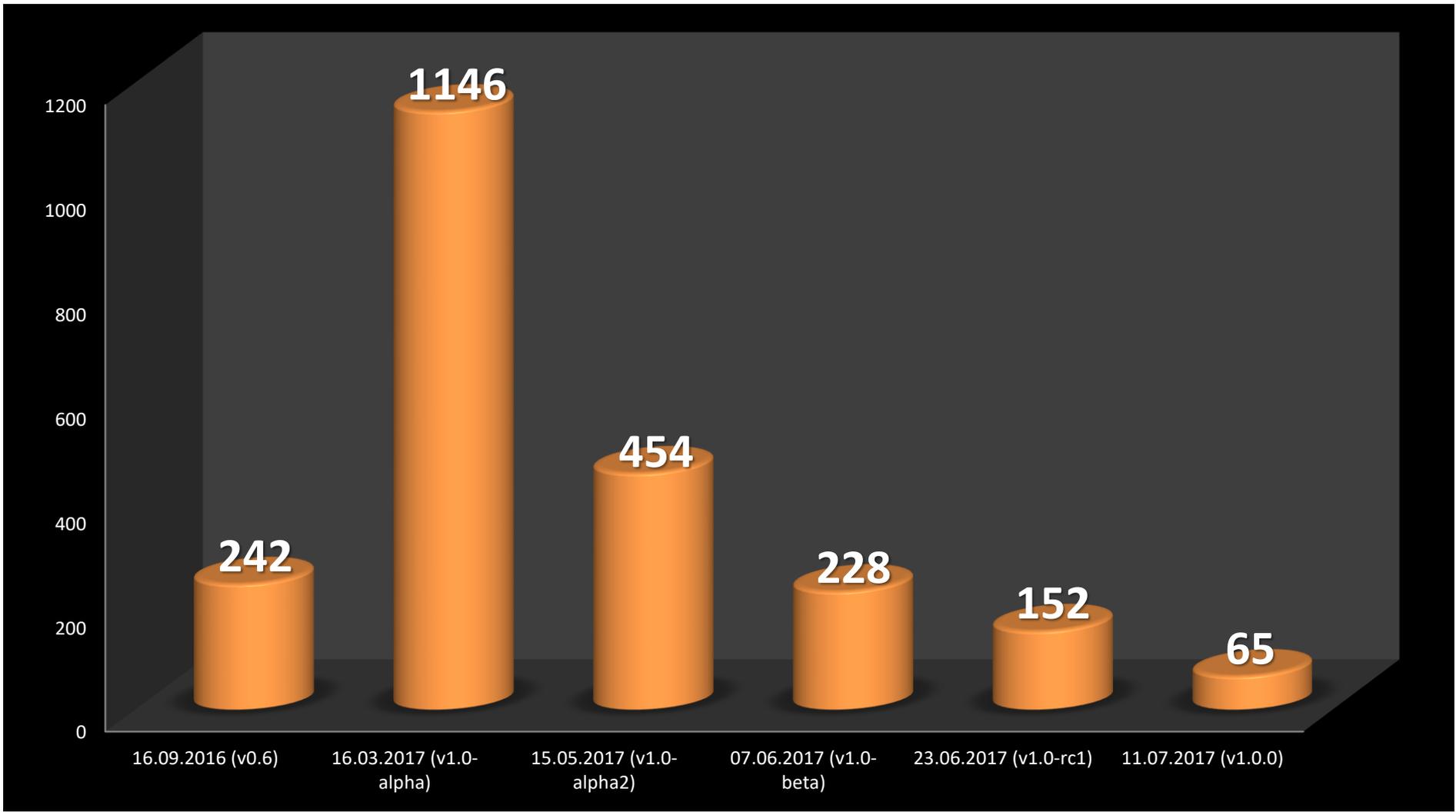
Image source: <http://fusion.kinja.com>



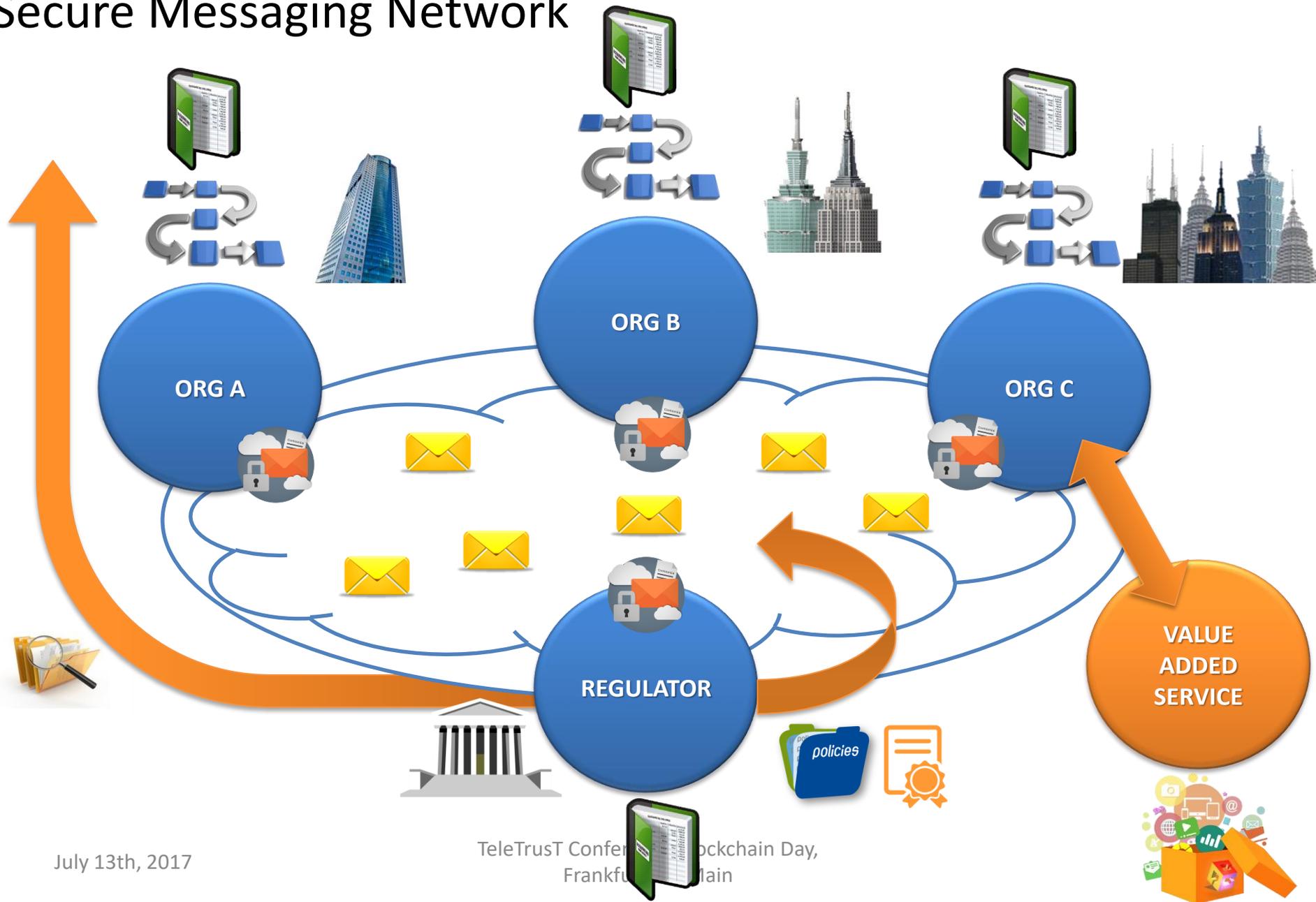
4.1 Blockchain Maturity – Capability Evolution



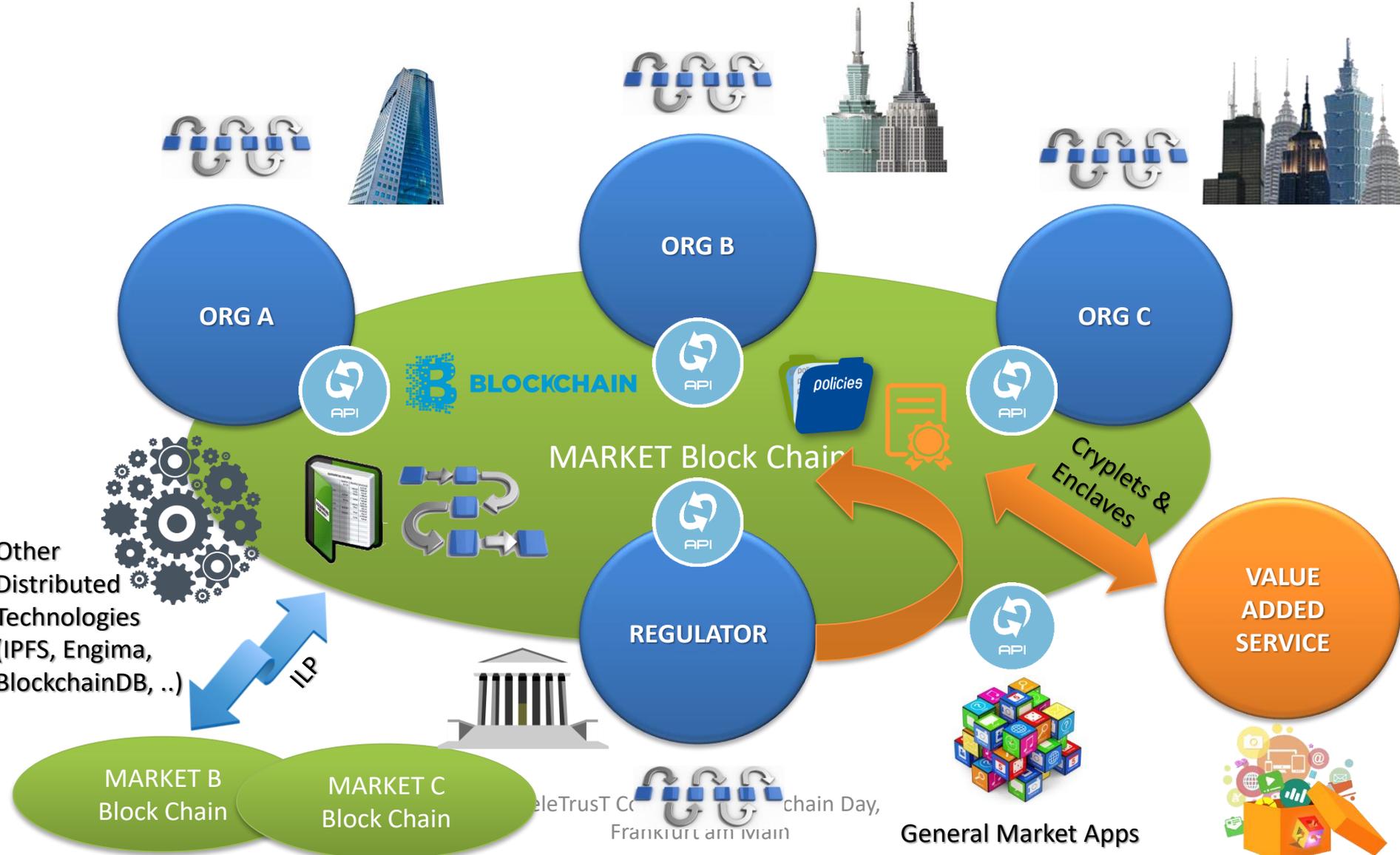
4.2 Blockchain Maturity – Technology Stability



5.1 B2B Market Scenario Today: Secure Messaging Network

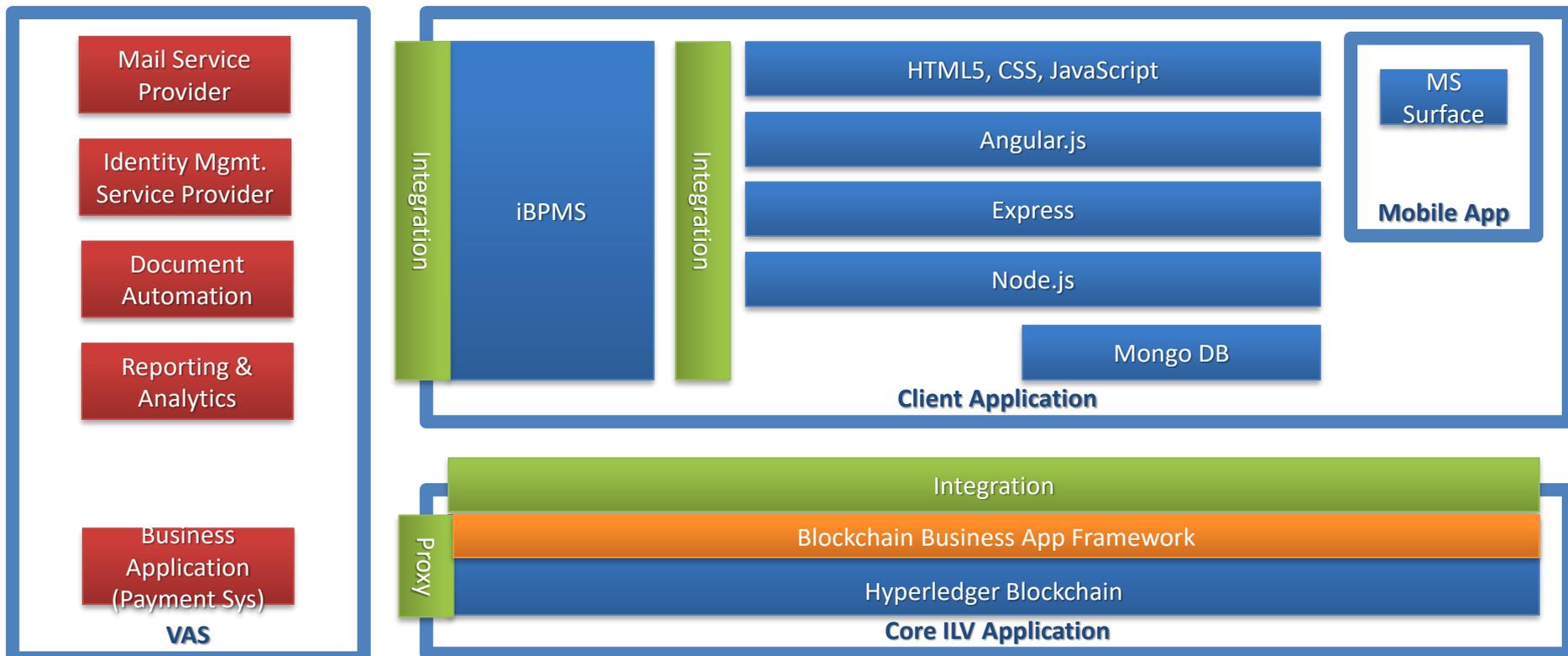


5.2 B2B Market Scenario Tomorrow: Shared Blockchain Ecosystem



6. Technology Stack

- Amazon EC2 Cloud
- **Hyperledger Blockchain** (Docker, Java CC, Node.js SDK)
- Standard **MEAN Web App** Framework (Mongo, Express, Angular.js, Node.js)
- **Web Technologies** (HTML5, CSS, etc.) & Frameworks (Bootstrap, SASS, jQuery, etc.) & UX Design (Sketch)
- Stateful Process Orchestration & Workflow Component (**iBPMS**)
- Integration via Event Driven & Service Oriented **Middleware** Technologies (REST, ActiveMQ, JBoss MW, etc.)
- **Document Automation** (XSL-FO, Apache FOP, etc.)
- **Legacy** Application Technologies
- **Microsoft Surface** (C++ / C# / Microsoft Visual Basic / JavaScript & HTML5)
- **Blockchain Business App Framework** (custom framework built on top of Fabric utilizing several other Technologies)



7. Hyperledger Fabric Challenges



Secure "DB & Procedures"

Hype & Interest



IBM, SAP, Accenture, 142+ Members

Adoption of Cryptocurrencies

Plug & Play

Open Source

Integration

Interfacing (Lib vs Service)

Stability (Java, DEV Mode)

Content Management

Infrastructure & Performance

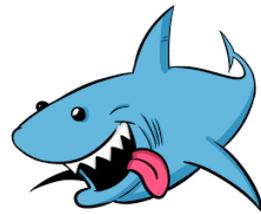
Business Logic Positioning

???

Know-how & Support

Security (Privacy)

Pure Technology vs. Business App.



Consensus & Concurrency

Regulations "Right To Be Forgotten"

Migration, Replay

Lack of certain Capabilities, Features

Chaincode Lifecycle Mgmt.

THANK YOU



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July 13th, 2017

TeleTrust Conference Blockchain Day,
Frankfurt am Main

blockchain@deutschebahn.com