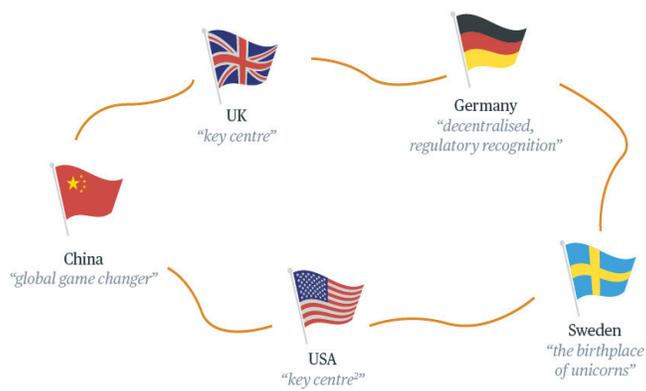




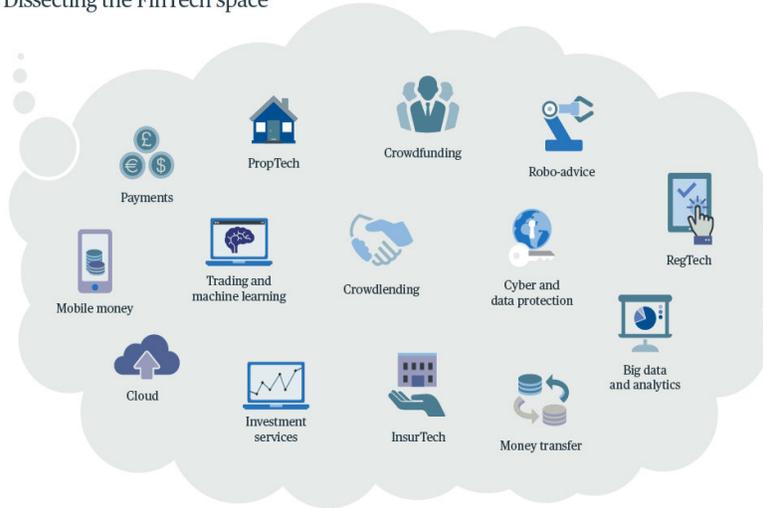
FinTech: Trends and legal implications **& Bird & Bird**

Christian Bartsch, Partner
Bird & Bird LLP, London
9 June 2016

The global FinTech market



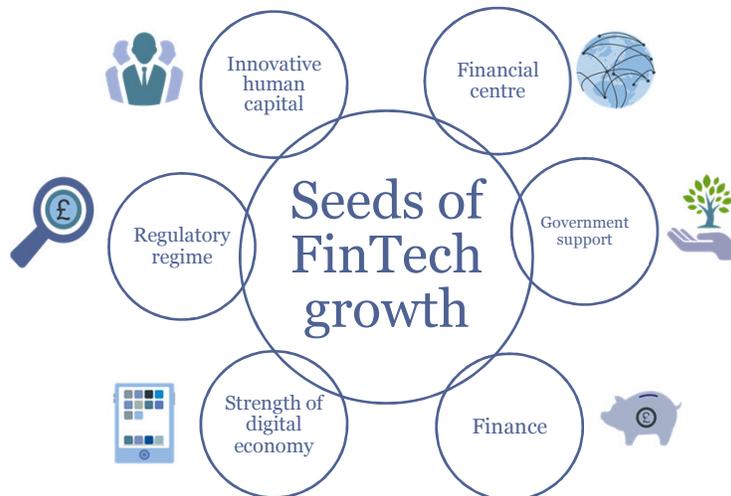
Dissecting the FinTech space



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Reasons for differing growth rates



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- Where are the key battlegrounds?

Payments

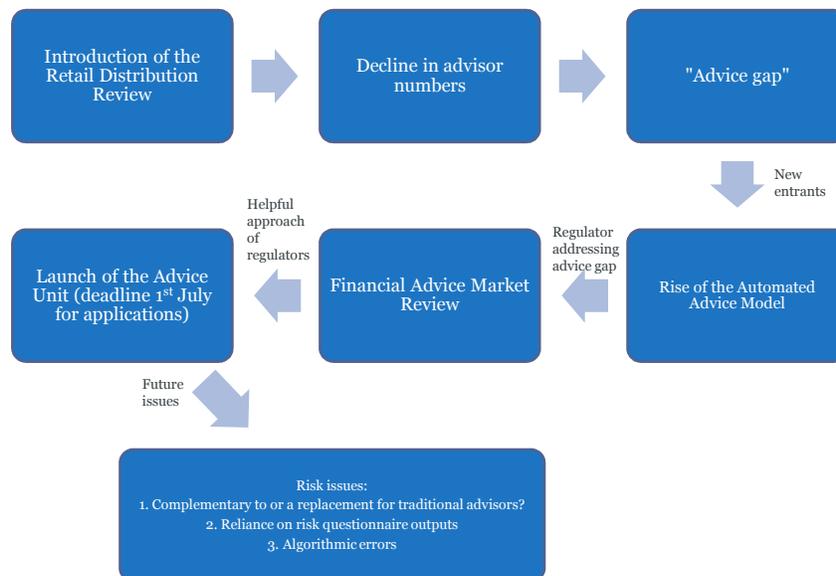
Peer-to-peer platforms

- "Utility provider in a fur-lined rut" vs. "technology organisation selling a regulated service"
- Co-operation or competition – what can each side provide?

Traditional players	FinTech players
Regulatory expertise	Nimble and agile
Customer base	Innovative
Deep pockets	No legacy system issues

- Innovation units/accelerators/incubators/hackathons
- Robo-advice – an example of FinTech exploiting a gap in the market

Automated advice timeline



Project Innovate

- The FCA launched "Project Innovate" in October 2014 with the aim of encouraging innovation and promoting competition through disruptive innovation.
- Guidance recently issued by the FCA on the use of cloud technology in the financial services sector.
- Introduction of an Innovation Hub – allowing organisations to gain prompt regulatory feedback.
- Opening of a "regulatory sandbox".
- Which organisations are making use of Project Innovate and the Innovation Hub?

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The payment revolution **& Bird & Bird**

Trystan Tether, Partner
Bird & Bird LLP, London

9 June 2016

Overview

The payment revolution

- Haven't payments been finance + technology for decades?
- Yes, but a new wave of FinTech is disrupting the established paradigm.
- The impacts are wide-ranging but to give some order to this overview, will be discussed under three categories related to how we make payments:
 - Payment using notes and coins;
 - Payment by direction to a bank or another type of account holder or trusted third party;
 - Payment using payment cards.
- Bank disintermediation - peer-to-peer lending.

Payment using notes and coins

Two FinTech effects

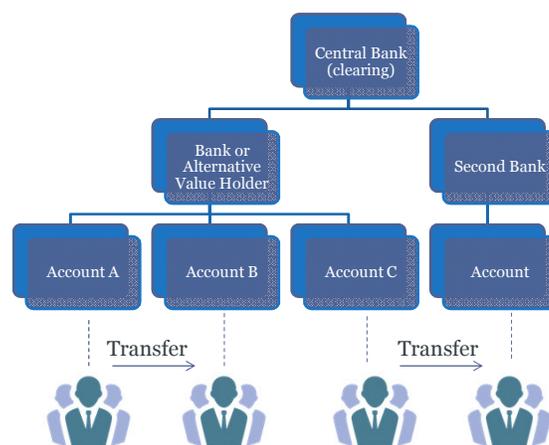
- Elimination of the use of notes and coins in face-to-face transactions.
- Creation of new digital currencies with the advantages of cash and more.
- Cash advantages and disadvantages:
 - Requires no third party trust, free to transfer, but...
 - Requires holding of units in physical form (expensive and insecure), no audit trail, can be copied (though not easily), cannot be transferred at a distance.
- Digital currency issues:
 - No value-backing - compare "fiat" currencies; not a store of value;
 - Capable of being copied if encryption broken?
 - Capable of being destroyed by cyber attack?
 - Costs of transfer and environmental impact?
 - No audit trail - regulatory concern.
- Possible developments:
 - State-issued digital currency;
 - Value-backed digital currency.

Payment by direction to a trusted third party

While a large quantity of small payments are still in notes or coins (but probably not for much longer) we typically make larger payments by:

- Placing value with a trusted third party such as a bank (often accompanied by creating an "account"); and
- Instructing the third party to:
 - make a payment on our behalf (which is made through a clearing system); and
 - debit our account with the sum paid
- Payment is made by the adjustment of electronically recorded accounts at the payer and payee level and in the clearing system and so has relied on "financial technology" for decades, but **new** FinTech is still bringing changes...

Payment by direction to a trusted third party



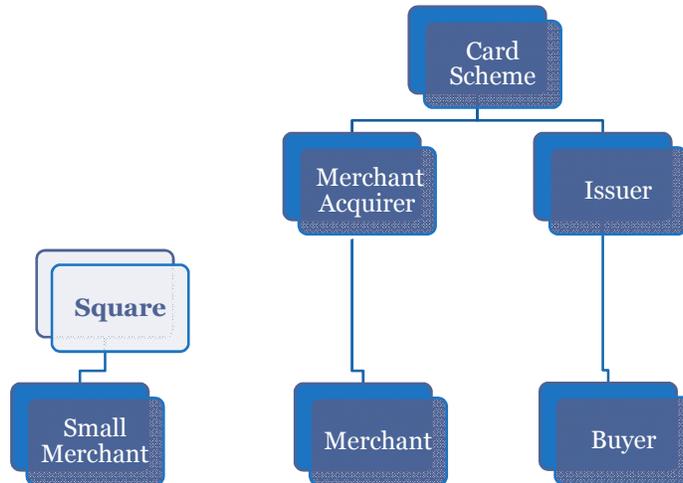
Payment by direction to a trusted third party – impact of FinTech changes

- Method of giving instructions – cheques → telephone banking → internet banking → mobile banking → apps and texts (Paym, Pingit).
- Instantaneous confirmed transactions (necessary for commercial transfers) without use of payment cards – Zapp, Seamless – payment initiation services under PSD2.
- New trusted third parties – usually providing some added value not available from conventional bank accounts or less expensive:
 - M-Pesa – phone utilisation, loading/redemption convenience;
 - E-money issuers – e.g. prepaid card issuers "banking the unbanked";
 - International money remitters – cost, access.
- Fraud avoidance – dealing with the "instruction validity" vulnerability and cost:
 - Biometric and other identification developments – fraud & AML;
 - Data analytics to identify atypical instructions.
- Aggregators – intermediation to claim customer ownership.

Payment using payment cards

- Cards issued under the brand of the major card schemes are accepted by over 30 million merchants;
- In 2015, billions of transactions were processed by the main payment cards (e.g. MasterCard, Visa, Amex) with a value of several trillion euros;
- With rapid growth in use of contactless cards, these numbers will grow;
- How is FinTech affecting this enormously valuable market?

Credit/Debit cards



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Payment using payment cards – impact of FinTech changes

- New providers – e.g. Square, iZettle, Stripe; adding value:
 - Acceptance of smaller merchants (enhanced credit risk analysis);
 - Simpler gateway technology for online payments (Stripe's USP);
 - Better transaction data provided by gateway;
 - Lower cost solutions (?);
 - Link to credit provision – bundled services to customer.
- Card scheme disintermediation – Seamless, Zapp; payment initiation services.
- Customer intermediation and ownership:
 - Apple Pay, Samsung Pay and Android Pay;
 - Wallets which rely on other provider cards (e.g. PayPal);
- New payment intermediaries – e.g. portals (Amazon) and specific service platforms (e.g. Uber).

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Bank disintermediation – peer-to-peer lending

- Lack of willingness of banks to lend in certain markets.
- + high loan pricing
- Low rates of return paid to depositors.
- Has fueled concept of bank disintermediation through peer-to-peer lending.
- Apparent similarity to deposits but very different product...
- Regulatory approach – competition/consumer protection: Article 36H
 - Transparency/risk awareness;
 - Risk on platform – client money, suitability, insolvency remoteness;
 - Approach to risk diversification.
- Underwriting quality and separation from risk;
- Partnering with banks.

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FinTech & the cloud & Bird & Bird

Barry Jennings, Legal Director

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9 June 2016



The role of cloud computing in FinTech solutions & what does (should) that mean for contracts?

The benefits of cloud computing for FinTech



Best-of-breed technology, particularly around scaling, efficient operation, reliability



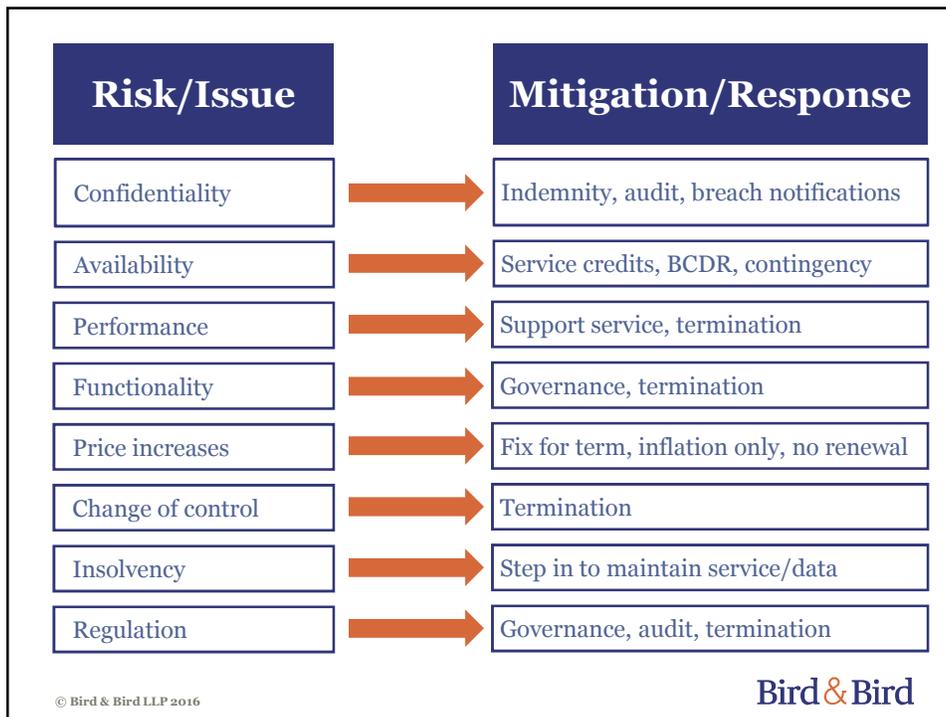
Provides global and mobile access to applications and data where and when needed



The cost of launching new services significantly reduced

Free FinTech businesses to focus on their core offering, innovate and scale rapidly





The nature of cloud computing contracts

A re-balancing of cost, risk and control in IT supply chains

- Multi-tenancy solutions (whether of location, infrastructure, databases or software instances) are about sharing, not owning, IT resources
- Inherent consequence of that is that the customer's rights over the solution must be reduced
- However, in FS the cloud solutions are not necessarily cheap and the financial impact of problems can be significant
- Active service management is critical
- Focus on transparency, governance and forward planning
- What is the contingency if you have to terminate?
- Tension with regulatory regimes built around control
 - SYSC (Senior Management Arrangements, Systems and Controls) SYSC 8.1.8 in the UK
 - Data Protection Legislation, including GDPR

The FCA view of cloud computing



The FCA's guidance on cloud computing

Draft
guidance
(mid-Nov)

Consultation
(12 Feb)

Final report

Three risk areas in the FCA's guidance on cloud computing

Commodity

- Change governance

Customer data

- International transfers

Supply chain

- Identify the subcontractors

The impact of cloud computing on the FinTech landscape



Disaggregation of the technology supply chain

- Fewer large deals, more small contracts, but contract value is a poor measure of risk/importance
- Clients have increased internal expertise on sourcing but maintaining a lead on understanding of disruptive technologies and market trends is a challenge (as it becomes harder to keep up)
- FinTech innovations become more easily deployed in an environment with a focus on sourcing and innovation, rather than contract and service management



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The rise of the FinTech start-ups

- Cloud computing removes barriers to entry for start-ups
- However, they often base their services on a cloud platform operated by a larger player
- Unlikely a start-up could leverage best deal out of such operators
- Query alignment of contract terms compliant with the regulatory requirements
- Customers need to understand the whole supply chain and may assist start-up clients in leveraging deals and changes with cloud operators
- Collaboration is key to making this work



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Open APIs – creating a "banking cloud"

- Cloud computing enables a move towards open APIs and therefore supports the banks' objective of delivering innovative new services and the regulatory objectives of improving market access and competition
- Important enabler of PSD2 requirements around account aggregator access, etc.
- UK Government - Open Banking Working Group/Open Banking Implementation Entity
- But how is data tracked through an open system and security/privacy maintained?



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FinTech solutions & big data **& Bird & Bird**

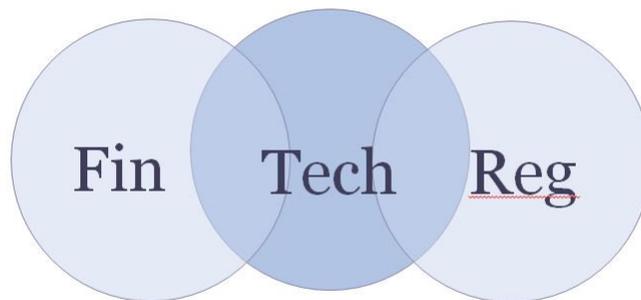
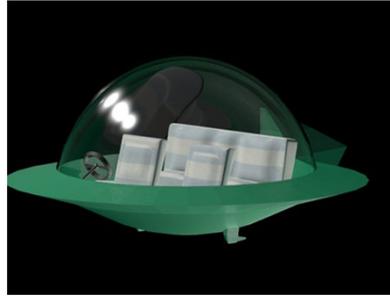
Treena Dunlea-Peatross, Associate

Bird & Bird LLP, London

9 June 2016

Overview

- Brave new world
- Role of big data
- Four Vs



Internet of me



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Machine learning



***"In my opinion, investment success will not be produced by arcane formulas, computer programs or signals flashed by the price behaviour of stocks and markets."
Warren Buffett (1987 Annual Letter)***

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Old and new

Old	New
Big data	How big data is used
Financial services	How financial services are delivered
Financial regulations	How compliance is achieved



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Cyber issues in FinTech & Bird & Bird

Simon Shooter, Partner
Bird & Bird LLP, London

9 June 2016

Specific cyber regulation you need to know about

The Network and Information Security Directive

The core obligation of the Directive:

- the requirement for operators of essential services to implement appropriate and proportionate security measures to protect networks and data against cybersecurity incidents and to report serious breaches to regulators



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Who are providers of essential services?

"An entity that provides a service that is essential for the maintenance of critical societal and/or economic activities so long as the provision of that service depends on network and information systems and if an incident to the network and information systems of that service would have significant disruptive effects on the provision of those services"

BUT – you can anticipate a flow down of the compliance requirements



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Financial services sector in the cross hairs

The NIS Directive's rules on operators of essential services will also apply to banks and other credit institutions.

A credit institution is defined under existing EU legislation as being "an undertaking the business of which is to take deposits or other repayable funds from the public and to grant credits for its own account".

The rules will also apply to operators of trading venues, which includes regulated markets like the London Stock Exchange. Trading venues is a term that includes other multilateral or organised trading facilities, with the Alternative Investment Market (AIM) in London being an example of a multilateral trading facility.



How long have essential operators got to adjust to NIS?

- The Directive is expected to be formally approved imminently
- Following approval there will be 21 months for each Member State to transpose the Directive to national law
- Following transposition each Member State has up to 6 months to identify essential services



What is likely to happen if you don't comply?

- Member States are being allowed to legislate on the penalties for non-compliance
- The Directive specifies that penalties must be “effective, proportionate and dissuasive”
- Enforcement will be combined with related regulations, in particular the penalties and fine included in the future European General Data Protection Regulation



Putting the preaching into practice - or what should businesses do now?

Key concepts

- Accept that a cyber-attack is, sadly, a case of "when" not "if"
- Stop looking at cybersecurity as solely an IT issue
- Balance your approach between prevention and preparation
- Adopt a multi-disciplinary approach
 - ❖ IT and IT forensics
 - ❖ Lawyers/compliance officers
 - ❖ PR



Action points

- Establish your lead cyber team - with senior board engagement
- Review your existing cybersecurity technology and, if needed, implement data monitoring and behavioural-based detection systems
- Prepare a cyber response strategy - cyber response plan, cyber response teams and reporting mechanisms to permit breach reporting
- Train and test
- Review cyber insurance



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FinTech start-ups: How to attract finance and enable growth & Bird & Bird

Ali Ramadan, Partner
Bird & Bird LLP, London

9 June 2016

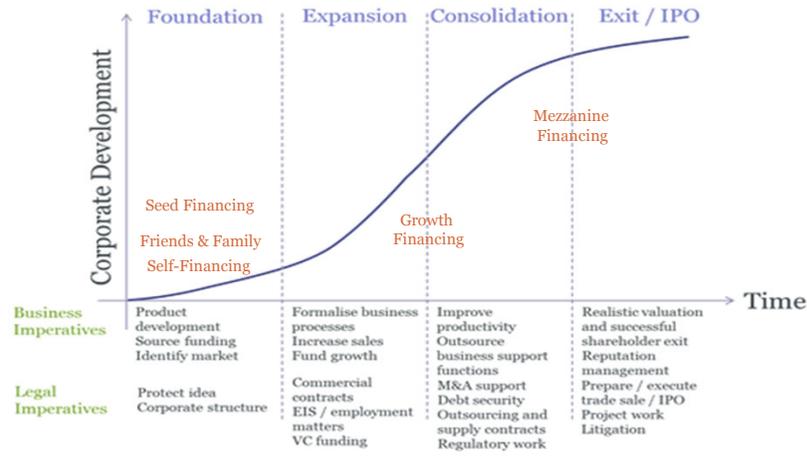
Agenda

- The funding lifecycle
- Sources of finance for the FinTech start-up
- Raising finance: Tips and considerations

The funding lifecycle



FinTech start-up: Funding lifecycle



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Sources of finance for the FinTech start-up

FinTech start-up: Funding sources

- Seed financing stage
 - High net worth individuals
 - Equity crowdfunding
 - FinTech accelerators
 - Early stage venture capital/micro funds
- Growth financing stage
 - Traditional venture capital
 - Corporate venture capital
 - Strategic investors - banks/financial services firms
 - Non-strategic investors



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Attracting finance



Raising finance: Tips and considerations

- Strong team/board
- Seek advice on key legal issues
- Business plan
- Visibility/networking
- Time



Raising finance: Tips and considerations

- Investment strategy – who is the best investor for your business?
 - Business model
 - Exit strategy
- Is a FinTech accelerator right for your business?
 - Mentoring
 - Access to investors
 - Equity/opportunity cost



Raising finance: Tips and considerations

➤ Choosing between a bank and a traditional venture capital investor:

- Validation of business model
- Access to networks and resources
- Strategic alignment
- Market perception
- Compliance and reporting
- Investor blocking rights



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Blockchain: Use in FinTech beyond Bitcoin & Bird & Bird

Martin von Haller Grønbæk, Partner

Bird & Bird LLP, Copenhagen

9 June 2016

Topics

- Blockchain technology
- Open source
- Blockchain 2.0
- "Permissioned" blockchain
- Smart contracts
- R3 consortium
- Ethereum
- Challenges

Blockchain technology

- Database technology that works on a network.
- Users install the application locally and the "nodes" all hold a copy of the database.
- No central server holds control over the database.
- The database is structured as a ledger or a registry of entries into the blockchain.
- The blockchain consists of blocks that hold "time-stamped" batches of valid entries.
- Each block includes the "hash" of the prior block, linking the blocks together.

Open source

- The transparency of Bitcoin (vs. anonymity).
- Bitcoin Core code is released under the terms of The MIT License.
- Linux Foundation's Hyperledger Project code is released under Apache License, Version 2.0.
- R3's New Distributed Ledger Technology Corda to be released as open source.
- Everything at Ethereum, including website, tools, white papers, software and compilers are released under the GPL.

Open or "permissioned" blockchains

- The specific blockchain application defines a valid transaction.
- In cryptocurrency applications such as Bitcoin, a valid transaction must be digitally signed.
- Other applications may use a different method of validation, such as third party certification, or none at all.
- The R3 blockchain network is centralised and private among banking groups and financial institutions.
- R3 consortium depends on the technical rules and regulations set by a central authority, thus NOT trustless.
- The Bitcoin network is considered to be an unbreakable technology because of the magnitude of computing power provided by millions of miners and leading mining firms worldwide.
- R3 blockchain network is maintained by its member banks and its "permissioned" blockchain is considered less secure.

Smart contracts

- Computer protocol that embeds the terms and conditions of a contract.
- The human readable terms (the source code) of a contract are compiled into executable computer code that can run on a network.
- Partially or fully self-sufficient, self-executing, self-enforcing, or all of these.
- Early adaptations of smart contracts are digital rights management schemes and financial cryptography schemes for financial contracts.
- Ethereum is a public blockchain platform with programmable transaction functionality released under an open source licence.
- It provides a decentralised virtual machine that can execute peer-to-peer contracts using a cryptocurrency called Ether.
- Ethereum is a scripting language for smart contracts.
- R3 networks are based on the centralised Ethereum-based blockchain network.

Legal challenges

- Transparency and privacy
- Code is law
- Adjudication and flexibility
- The link to the physical world
- The law of contracts
- Consumer regulation
- FINANCIAL REGULATION

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