SHARE MORE THAN TECHNOLOGY

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Blockchain 1.0, 2.0, X.0 …

what is next?

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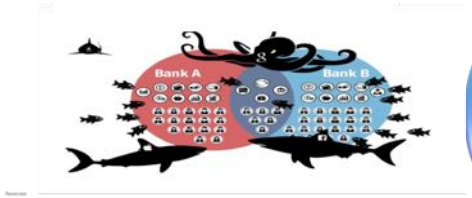
Digital Drivers

Client Expectations
Omni-accessibility, control & immediate gratification

Pink Pandas
Ready for anything…

Distribution
Platform Oriented

DIGITALIZATION



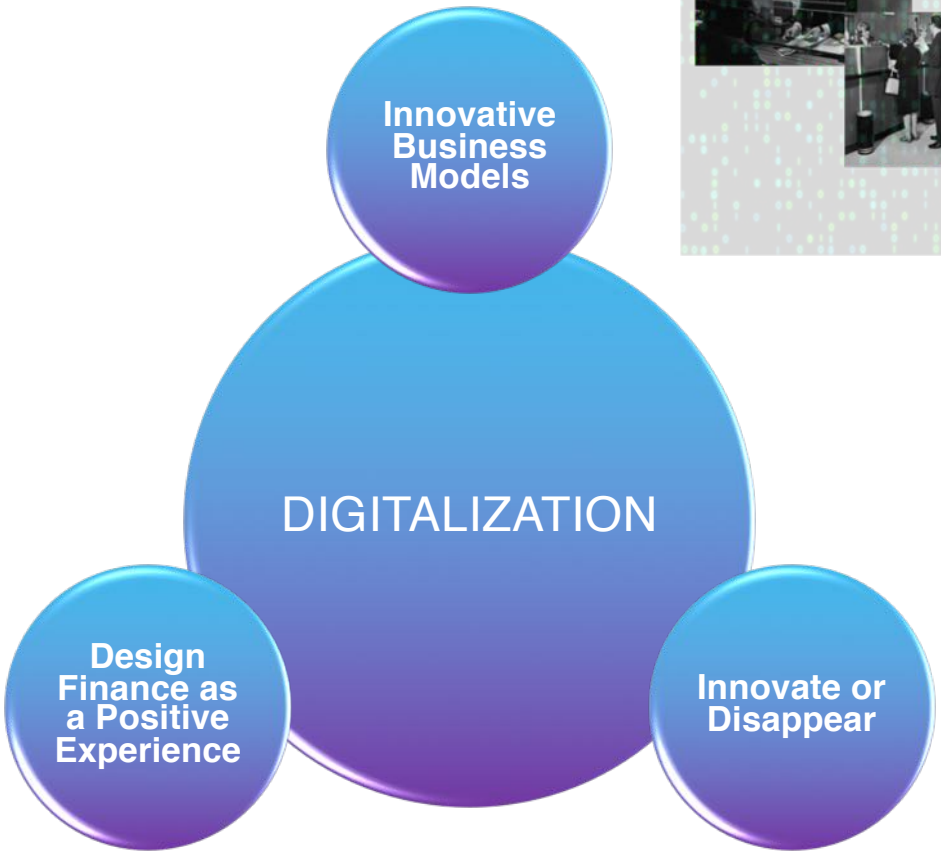
Competitive Landscape
Assault by New Players and Models

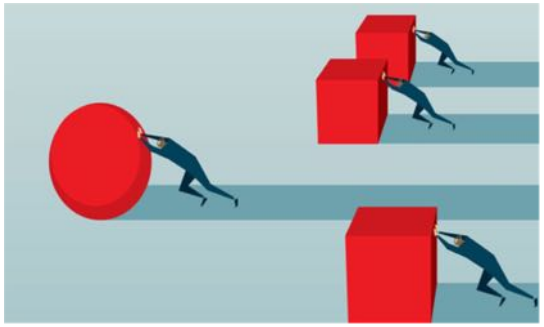
Market Framework
Elusive Marketplace

Regulation & Compliance
More + Broader + Stricter

Operational Efficiency
Quantum Leap

Digital Strategies





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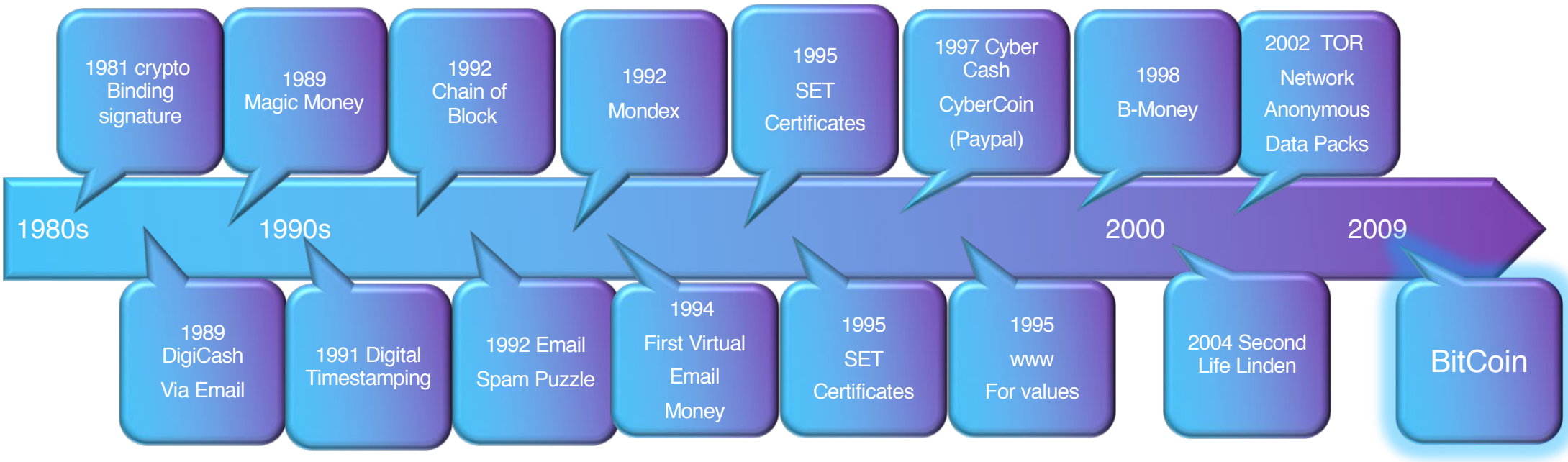
Blockchain Origins

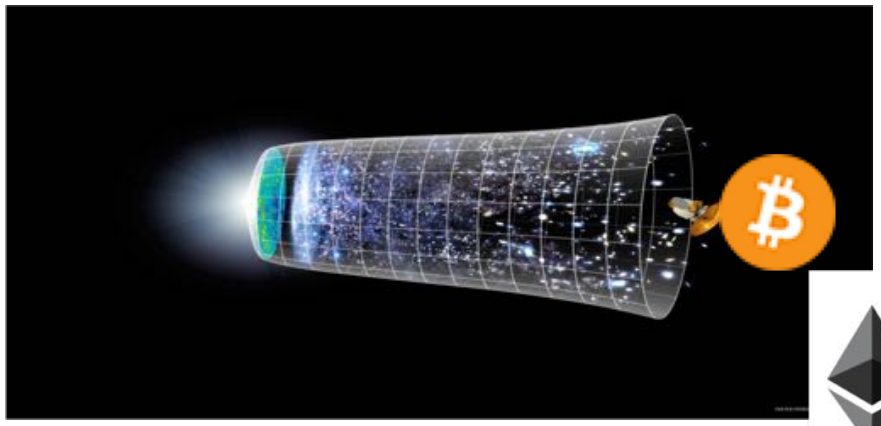
Paleo Age



Technologies — Crypto – Time Stamping – Digital Signature – Digital Certificate – AlgoPuzzles - etc.

Blockchain Origins

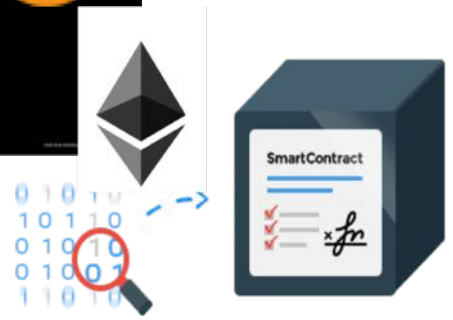
1.0 – the Big Bang .. 2.0 – Infancy & Diversity .. 3.0 – Growth & Reality



1.0 Resolving Double-spend with distributed transfer

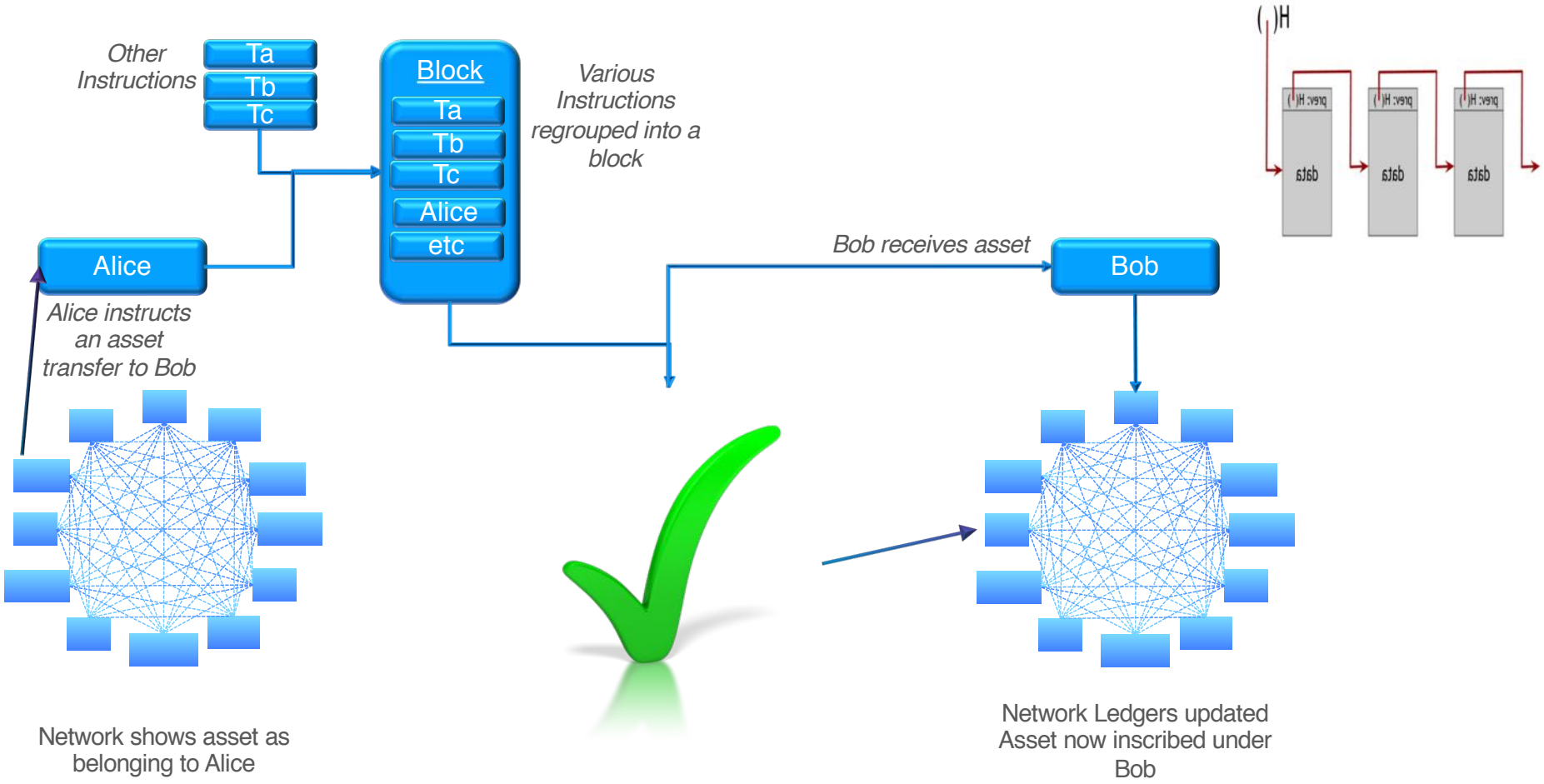
2.0 Including Conditionality based on Smart-Contract

3.0 Evolving to efficient & flexible Federated Consensus within Permissioned environment



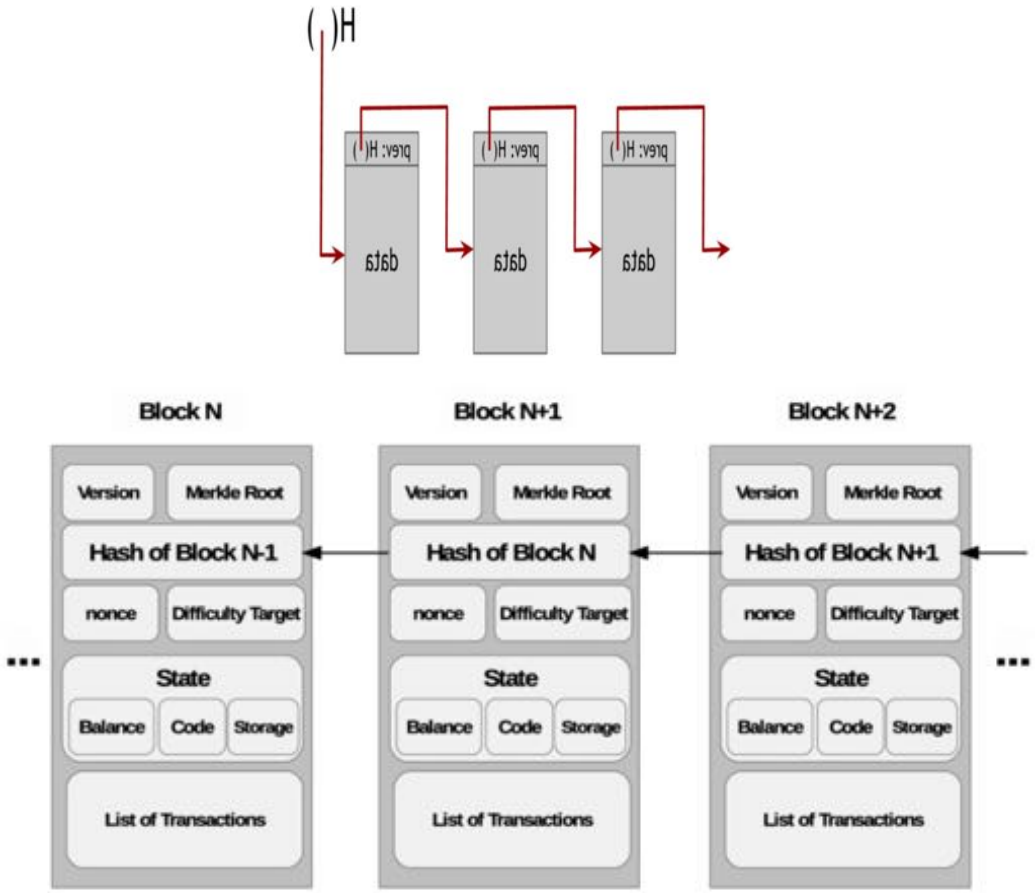
Blockchain Universe

Chain of Blocks



Blockchain Universe

BlockChain



The Future

- Blocks that contain more data
- Capacity to mange various data types

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Blockchain Universe

Consensus

The Future

- Fast Consensus
- Consuming little energy
- Protocol with higher then 51% attack threshold
- Quorum: Select the group members approving

Proof-of-Work **Proof-of-Stake / Delegated Proof Of Stake / Leased Proof of Stake** **Proof of Authority / Delegated Proof of Authority** **Proof-of-Assets** **Ripple Transaction Protocol (RTXP)** **Partitioned Consensus** **Federated Byzantine Protocol** **Proof o Elapsed Time** **Etc.**

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Blockchain Universe

Nodes

The Future

- Always operating, thanks to backups
- Secure as non-penetrable
- Running chains in parallel
- Example: InfraChain initiative https://infrachain.com

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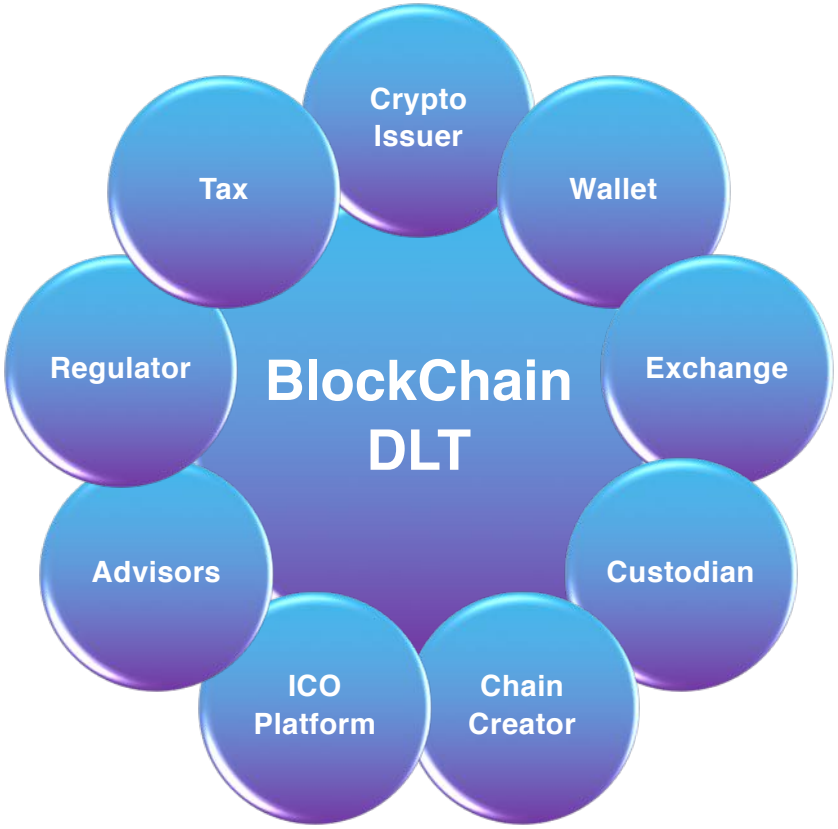
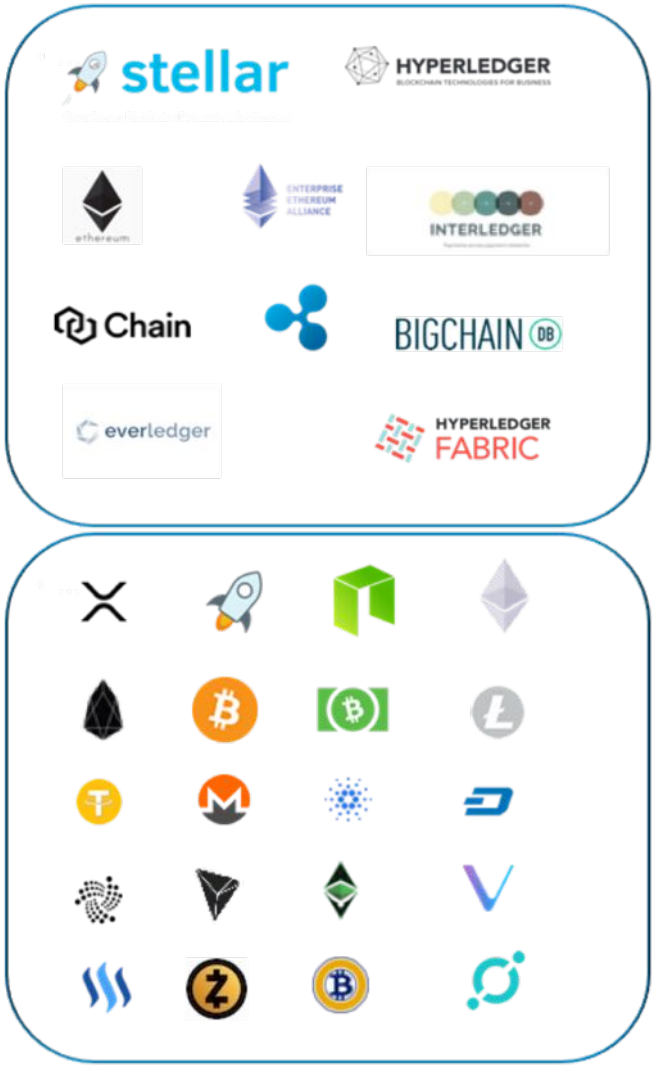
Blockchain Universe

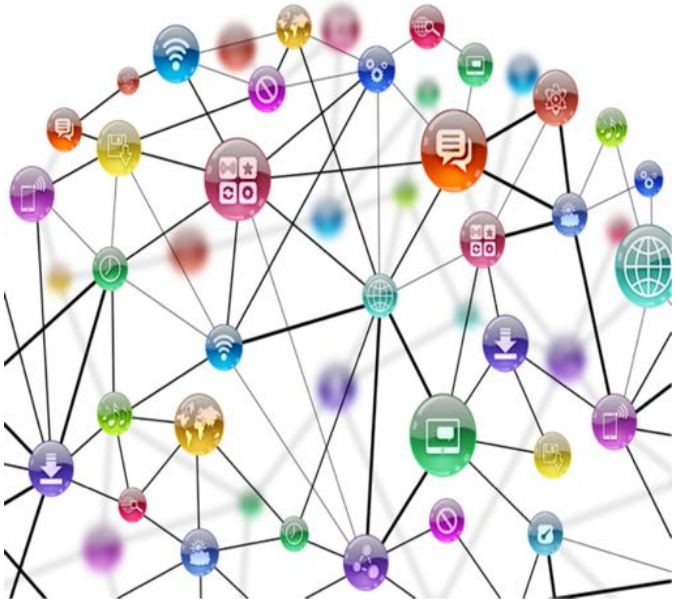
Ecosystem with Chains & Cryptos





Blockchain Outlook

Specialization – Interoperability - Scalability



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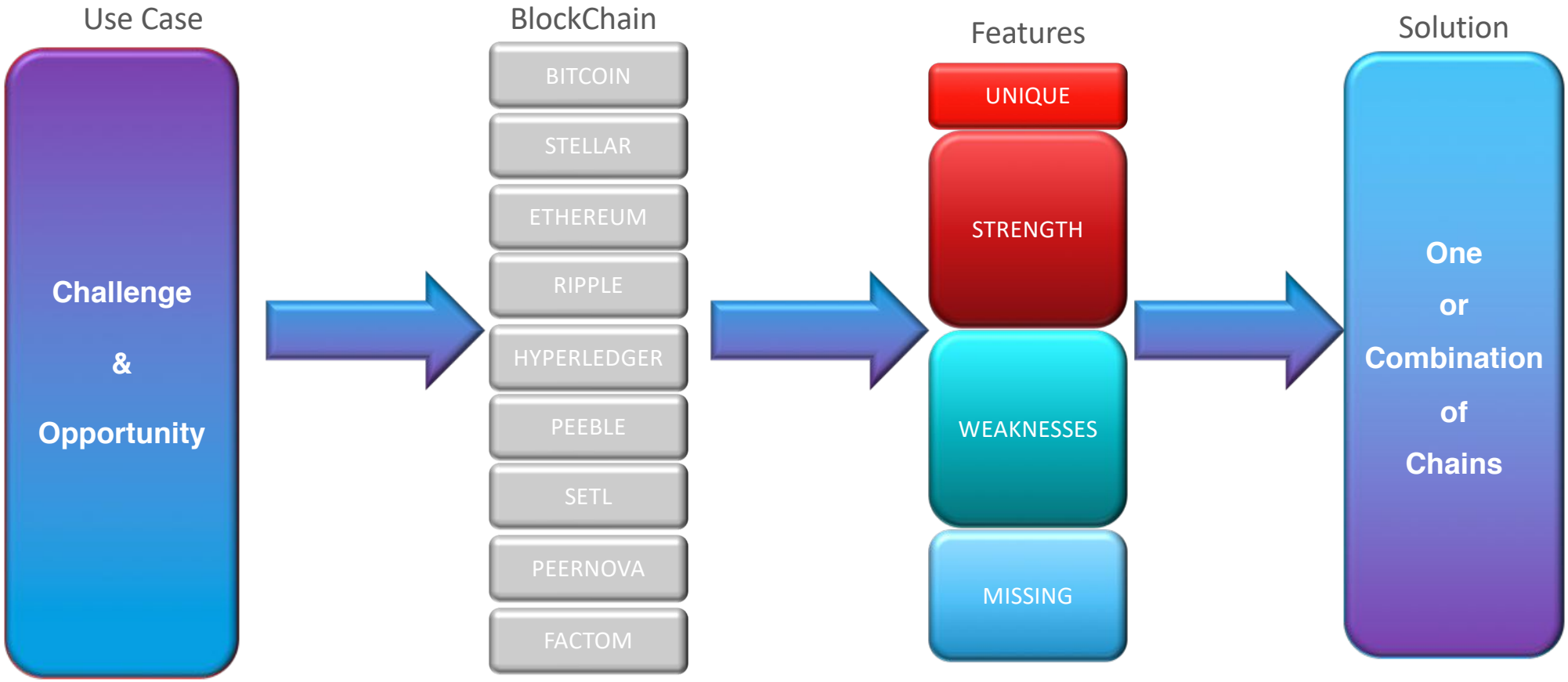
BlockChain-DLT Applications

Select the right Blockchain(s) for each Use-Case



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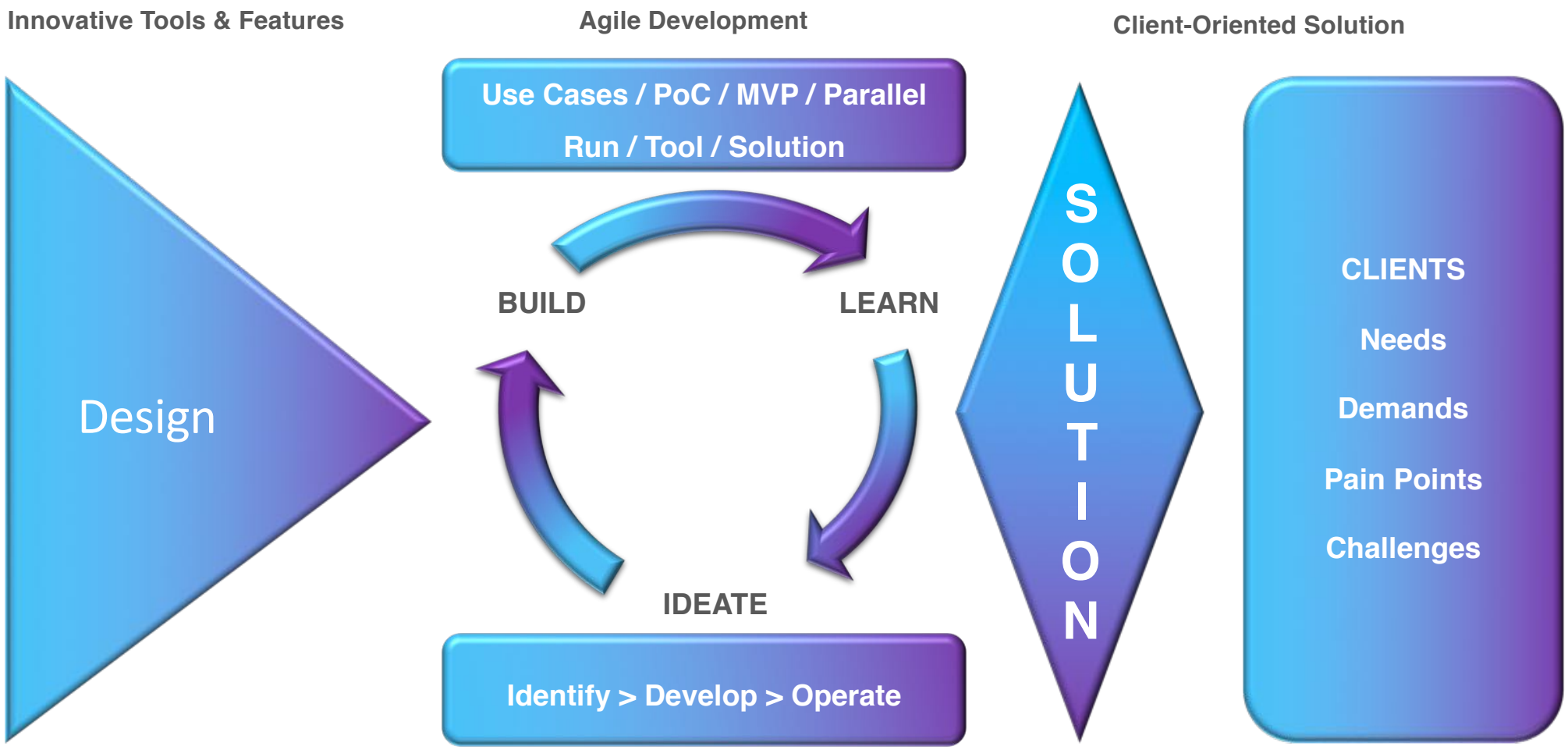
BlockChain-DLT Applications

Agility



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BlockChain-DLT Applications

Identifying Opportunities with a broad range of Users

- Retail Banks
- CSDs
- Wealth Managers
- Treasuries
- Depositaries
- Fund Admins
- Asset Managers / ManCos
- Transfer Agents
- Custodians
- CDO Managers
- Governmental Entities
- Big Corporates
- Commodity Exchanges
- Telec
- Media Providers
- Audit Firms
- Transport
- Logistics
- SMEs
- Etc.

Every User requires Specific Solutions

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BlockChain-DLT Applications

Developing Value-Generating Use-Cases 1/2

Assets/Data Reconciliation: Various parties multilaterally reconcile assets/data, enabling collaborative plus fast resolutions with minimal errors.

Digitalized KYC: Intra-group & among peers; by matching the various records with blockchain hashes, records can be shared and completed in a safe and efficient manner

Direct Debits: Streamline by identifying and resolving all single line items among given banks.

Fund Parts Safekeeping: Each Fund Part would be allocated to an investor by rendering them traceable and visible on virtual subaccounts.

Loan Collections : The disbursement and collection of loan cash flow as well as the communication with borrowers are optimized through process automatization..

Fund Transactions: Transactions along Distribution networks through platform to distribute Funds in a cheaper, faster and still compliant manner.

Trade Finance: Shared & traceable documents warrant quality.

Interco Financing, Cash Management and Trade Flows: Corporates with hundreds of group entities process substantial intra-group transactions in an automated manner at higher speed, with resolved plus reduced errors.

Loan Trading: Loan origination and trading become faster, cheaper and more transparent to transact = liquid

Power of Signatures: Immediate + shared updates simplify & secure interactions.

Notarization : Validation and sharing of relevant documents.

Prospectus drafting & sharing: Collaborative redaction of capital market prospects with subsequent distribution.

Cross Border Payments : Enable instant payments at ultra-competitive rates.

Micro-transactions : Cost-effective and automatized transactions for micro-amounts that can be aggregated and traced.

Capital Markets Transactions: Clearing & settlement of Equities, Fixed Income and hybrids.

Use-Cases to explore the future – *PoCs, MVPs, Parallel Runs & Solutions*

BlockChain-DLT Applications

Developing Value-Generating Use-Cases 2/2

Tokenization: Creating blockchainized assets and currencies to allow operating in proprietary or public distributed networks and thereby optimize transaction process and engage stakeholders.

Registrars: Set-up of registers of assets of asset owners that are updated in real-time by multiple contributors, traceable and shareable intra- and inter-groups.

Syndication: Management of loan, bond, equity and other syndication processes in fast and transparent manner.

Claims Management: Reunite the multiple actors required in Servicing and Special Servicing of loans by ensuring automatization of recurrent steps, traceability and shared actions.

Board Meetings: Allow auditable information pack sharing, transparent questioning and parallel voting/decision taking.

Crowd-Finance: Engaging crowds onto lending/investment platforms in a secure, transparent and cost-effective manner.

Nutrition: Tracking of food ingredients, their processing and transport, sale and consumption.

Key mechanical Components: Validation of make plus quality of small mechanical pieces used in aeronautics. Tracing their use, maintenance and wear.

etc.

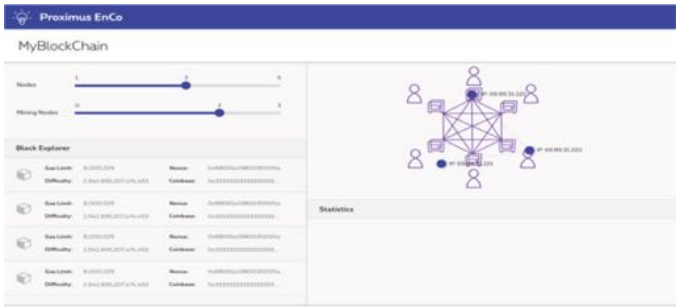
Certain Use-Cases trigger interest in collaborative exploration among peers

BlockChain-DLT Applications

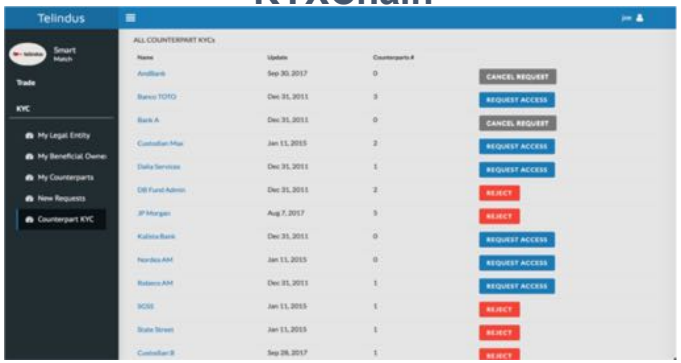
Examples

PoC

Blockchain-as-a-Service

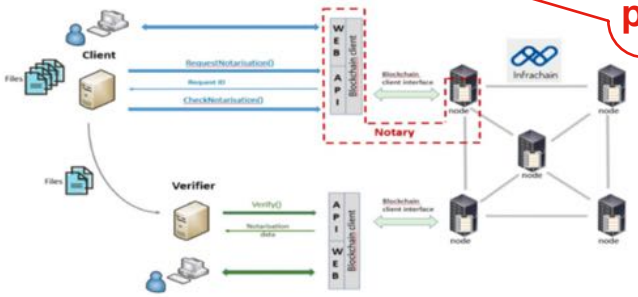


KYXChain



MVP / Solution

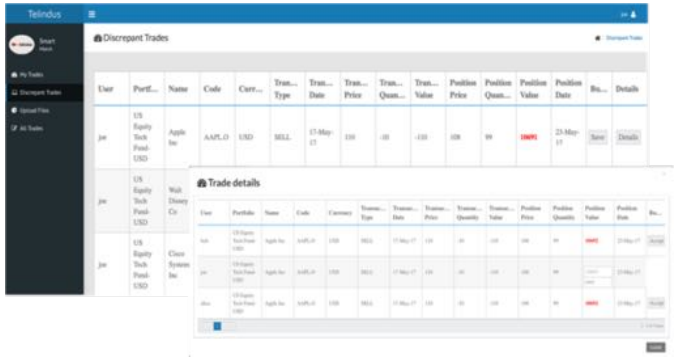
NotarChain



Delivered & Operating for EU public sector

See summary below

TransRecoChain



BlockChain-DLT Applications

Benefits

Enhance User Satisfaction

- UX: Faster, Cheaper and more transparent.
- Micro-Services: Micro-Transactions enables innovative business models
- Trust: Reliability allows for P2P transactions.
- Collaborative: Engaged stakeholders.

Optimize Operational Efficiency

- Costs: Significantly reduced.
- Speed: Processing faster; near-real-time
- Fluidity: Reduced frictions increases efficiency.
- Quality: Resolved & Reduced Errors.
- Fundamentals: More resources for complex items and process improvements..

Secured Regulatory Compliance

- Traceability: Easier for Audit purposes
- Access: Open for regulators immediate reporting.
- Detection: Easier & faster to detect anomalies.
- Risk: Reduced risk of breaches & fines.

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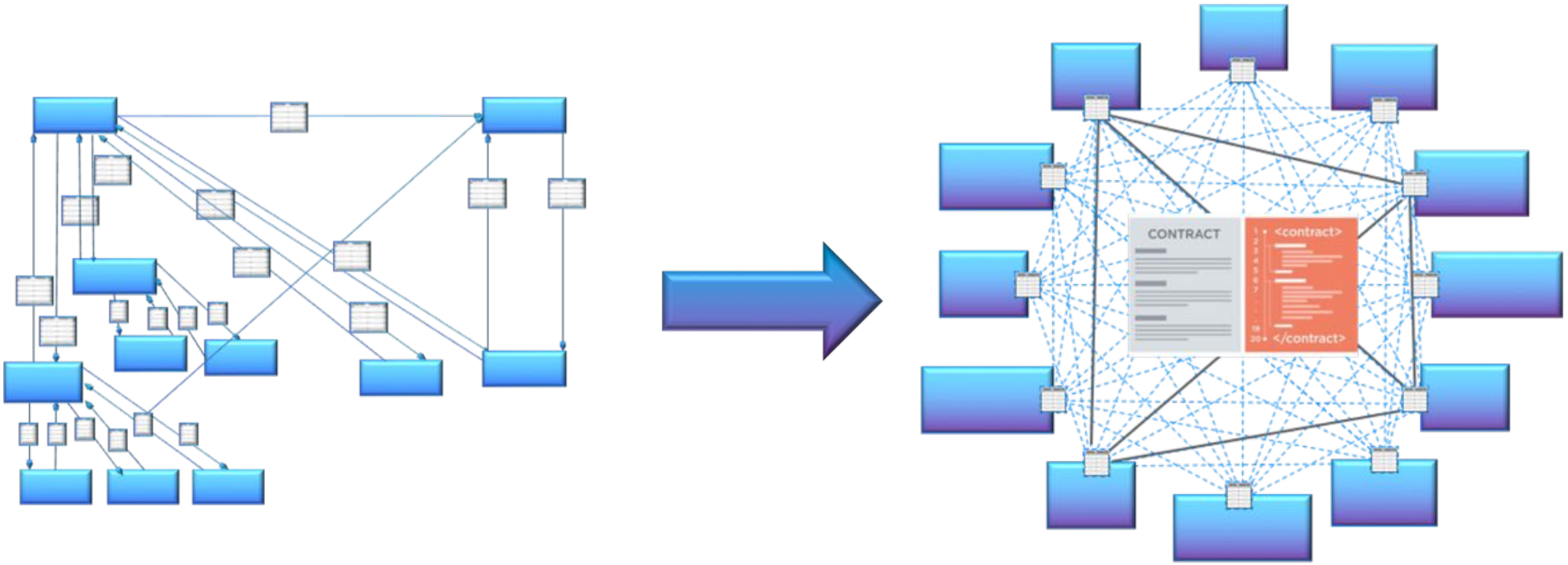
BlockChain-DLT Applications

From cumbersome bilateral interactions.. .. to swift Multiple-Party Collaboration

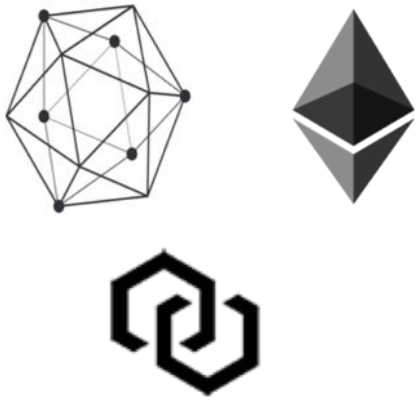


BlockChain in Action – Dermo TransRecoChain

Summary

Transaction, Reconciliation & Resolution Chain

- Tool to reconcile transactions pre- or/and post-trade, positions, data and other items
- Evolved : Chain > Ethereum > Hyperledger 0.6 > 1.1
- Allow multiple parties to see each others version of truth
- Each party selects who sees what
- In the event of discrepancies, those can be resolves live and collaboratively on the chain
- Actions on the chain are traceable and auditable
- Use Cases encompass:
  - Pre-trade for exchanges
  - Portfolio Assets
  - Fund parts
  - KYC information
  - Collateral Management
  - Etc.



Benefits

Process Efficiency

- Time: Speedily identification, qualification, resolution of breaks
- Friction: Less going back and forth on trivial items.
- Cost: Savings as the basic tasks are automatized and there are less mistakes.

Execution Quality

- Breaks are all identified.
- Resolution errors are minimized.
- Staff focus on the complex items.
- More resources available to improve processes.

User Satisfaction

- Direct users become more effective.
- Positive cascade on other points in the value chain (i.a. NAV).
- External user see enhanced outcomes (i.e. Regulatory reporting).