Distributed Ledger Technology as the Ecosystem Enabler

Enterprise-Grade Use Cases

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## Two Major Kinds of Blockchains

<table>
<thead>
<tr>
<th>Governance</th>
<th>Permissionless Blockchain</th>
<th>Permissioned Blockchain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Decentralized</td>
<td>Consortium</td>
</tr>
<tr>
<td>Network</td>
<td>Open read and write</td>
<td>Permissioned write and/or read</td>
</tr>
<tr>
<td>Speed</td>
<td>Internet</td>
<td>Secured Network (e.g. VPC)</td>
</tr>
<tr>
<td>Identity</td>
<td>Anonymous or Pseudonymous</td>
<td>Fast</td>
</tr>
<tr>
<td>Consensus</td>
<td>Proof of Work / Proof of Stake</td>
<td>Membership Onboarding</td>
</tr>
<tr>
<td>Privacy</td>
<td>Trustless</td>
<td>Proof of Authority / PBFT</td>
</tr>
<tr>
<td>Examples</td>
<td>bitcoin, ethereum</td>
<td>we.trade</td>
</tr>
</tbody>
</table>

**Enterprise Friendliness**

- **“Public”**: Permissionless Blockchain
- **“Federated”**: Permissioned Blockchain
Why Distributed Ledger Technology (DLT)?

Enterprise-grade DLT is mostly used for **secured real-time B2B data synchronization**.
What is Smart Contract?

Smart Contract is an **Event-Triggered (Conditional) Contract Execution Automation**.
Hash vs. Encryption

Hash and Encryption are Not Mutually Exclusive.
Why Does Reinsurance Adopt Smart Contracts?
Why is KYC DLT So Difficult?
OTC Market Ecosystem

Value Grows Exponentially with Network Size.

OTC Post-Trade DLT Platform

- Central Counterparty (CCP)
- Custodian
- Broker
- Asset Management
- Futures Commissions Merchants (FCM)
- Bank
- Regulator

- Confirmation on Executed Trade
- Settlement instruction
- Payment Instruction
- Delivery Instruction

60-80% Manual Effort Reduction

Intra-Day Liquidity

Simultaneous Execution

Duplicated Financing Detection

Real-Time Status & Commission

Delivery Instruction
Project Ubin Phase 3

Interledger Interoperability Can Shorten DvP from T+2 to T+0.
Key Success Factors

Success Lies in Wide Adoption.

• Use Case Focus
• Governance Model & Legal Framework
• Commercial Model
• Data Structure, e.g. FpML, CDM v2.0, etc.
• Regulatory Blessing, e.g. AML, TRM, GDPR, etc.
• Stakeholder Management, e.g. Consortium, JV, Utility, etc.
• Technology Choice, e.g. P2P, Boardcast, Tokenization, etc.
• Interoperability
• Openness to Hybrid Infrastructure
• Source Code Access & IP Right Ownership
The Future

Convergence of Exponential Technologies Deliver the Ultimate Value.
Distributed Ledger Technology as the Most Secured Platform

Looking for Vulnerabilities

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Incident

Buffer Overflow → Execution of Remote Codes

Recursive Loop → Send Fund Before Update Balance

Poor Password Storage → Access to Privileged Accounts
## Blockchain Risk Management Framework

### Business Objectives
- Growth/innovation
- Client experience
- Cost reduction
- Improved time to market
- Risk and compliance management

### Core Processes, Supporting Functions
- Information technology
- Human resources
- Compliance
- Finance
- Others

### Risk Considerations

#### Value Transfer Risk Considerations
- Consensus protocol
- Data confidentiality
- Key management
- Liquidity

#### Smart Contract Risk Considerations
- Business and regulatory
- Legal liability
- Enforcement of contract
- Information security

#### Standard Risk Considerations
- Strategic
- Reputational
- Business continuity
- Security
- Regulatory
- Ops and IT
- Contractual
- Supplier

### Operating Model Components
- Governance and oversight
- Policies and standards
- Management process
- Tools and technology
- Risk metrics and reporting
- Risk culture