Politics and Governance of Consortium Blockchains

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STRONGBLOCK

What is Governance?

A system of:

1. **Making** collective decisions
2. **Carrying out** those decisions - auditably, verifiably, accurately, correctly, completely
3. **Tweaking** the decision-making **rules**

What is Governance?

Example:

1. A group of 20 agree to share 5 large pizzas with specific toppings and crust options
2. Actually putting together the order, placing it (where?), paying for it, picking it up, and serving it
3. Amend rules for deciding on future shared meals

"Governance" often used narrowly

Some people use the term to mean

- Corporate Governance (board duties)
- Administration
- Reporting

These are all related to "carrying out" decisions

Key Concepts in Governance

- Principals and Agents
- Unilateral, Cooperative, Unanimous, vs Collective Decisions and Actions
- Information Asymmetry
- Contract Incompleteness
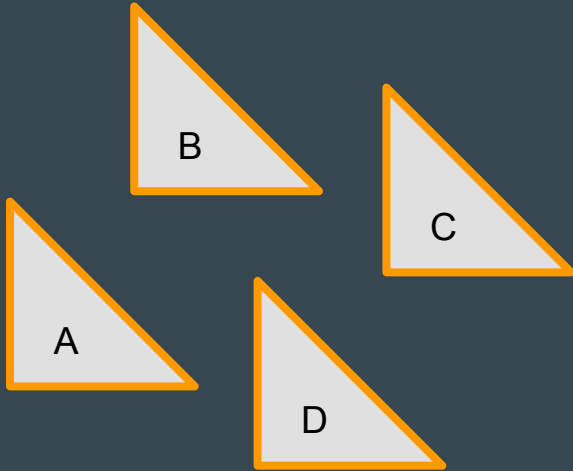- Friction and the Concept of the Firm

What is a Consortium?

Consortia Defined

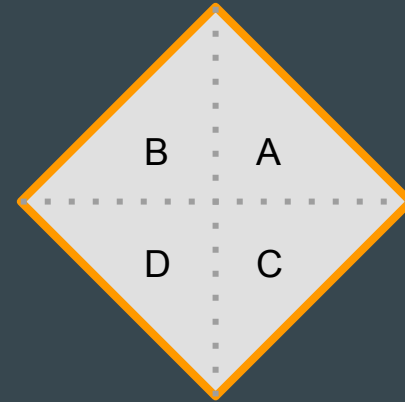A Consortium is a collective that:

- Has a limited **purpose**
- Is made up of **many** existing organizations
- Behaves as **one** organization
- Members must **give up power** to the group

Separate Orgs

Separate orgs have friction between them

Consortium

Friction inside the consortium is much lower

Consortia Examples

hulu

B1G

ALYESKA
Pipeline Service Company

AIRBUS

What is a Consortium Blockchain?

Consortium Blockchain Dimensions 1-2

Blockchain Dimension 1: Membership Type
- Membership Agnostic (Public-access)
- Membership Moderated (Private-access)

Blockchain Dimension 2: Use Type
- Unrestricted Use
- Restricted Use

Consortium Blockchain Dimension 3

Blockchain Dimension 3:

Number of Governing Stakeholders

- 0 Governing Stakeholders (Autonomous)
- 1 Governing Stakeholder (Sovereign)
- >1 Governing Stakeholders (Consortium)

Consortium Blockchain 3-D Space

	Membership Agnostic (Public-access)		Membership Moderated (Private-access)	
	Unrestricted Use	Restricted Use	Unrestricted Use	Restricted Use
0 Governing Stakeholders (Autonomous)	Public-access, Unrestricted-use, Autonomous Chain **Bitcoin Litecoin Ethereum Classic**	Public-access, Restricted-use, Autonomous Chain **Ethereum EOS**	Private-access, Unrestricted-use, Autonomous Chain	Private-access, Restricted-use, Autonomous Chain
1 Governing Stakeholder (Sovereign)	Public-access, Unrestricted-use, Sovereign Chain **(LEGALLY RISKY)**	Public-access, Restricted-use, Sovereign Chain **Ripple NEO NEM**	Private-access, Unrestricted-use, Sovereign Chain	Private-access, Restricted-use, Sovereign Chain **Hyperledger Worbli**
>1 Governing Stakeholders (Consortium)	Public-access, Unrestricted-use, Consortium Chain	Public-access, Restricted-use, Consortium Chain	Private-access, Unrestricted-use, Consortium Chain	Private-access, Restricted-use, Consortium Chain **Hyperledger**

Consortium Blockchain Defined

- A single source of truth that all consortium members read, update, and believe in
- A super-low friction way for consortium members to interact
- A gateway to entirely new business models

Zim Example

Before: Original Bill of Ladings are transferred to the receiver over **days or even weeks** after Vessel's departure

After: Original Bill of Ladings are transferred to the receiver within **under two hours** from Vessel's departure

Potentially saving Billions USD per year

Consortium Governance and Blockchains

Consortium
Governance
Best Practices
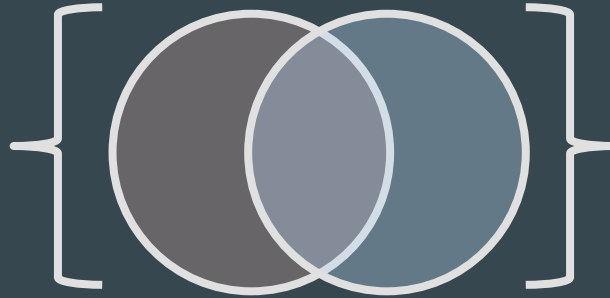
Blockchain
Governance
Best Practices

Highly
Correlated

Consortium Governance

- Qualifications for Membership
- Member Management and Administration
- Data Rights and Responsibilities
- Withdrawal of Consortium Members
- Term, Removal, and Termination
- Warranties
- Dispute Resolution

Blockchain Governance

- Qualifications for User Access
- User Management and Account Admin
- User Data Rights and Responsibilities
- Withdrawal of Users
- User Term, Removal, and Termination
- User Warranties
- Dispute Resolution

3 Integrated Data Sets for Consortia

Set 1
Data Related to Blockchain Governance

- Public Keys
- Accounts
- Permissions
- Block Production
- Resource Allocation
- Code Upgrades

Set 2
Data Related to Consortium Governance

- Membership
- Voting
- Audit Trail
- Agreed Source of Business Truth
- Dispute Resolution

Set 3
Data Related to Business Use Cases

- Purchase Orders
- Inventory
- Transit Tracking
- Bill of Lading
- Tokenized Assets
- DApps

SINGLE SOURCE OF TRUTH

Consortium Risks

What if nobody joins? (Maersk)

What if there is infighting?

How are disputes handled?

Anti-trust: don't fix prices or collude

All consortia must handle these risks

Market Paradox

"Initiatives by neutral service providers lack liquidity

"Initiatives by liquidity providers lack neutrality"

~"Market 3.0" at p2pfoundation.net

Blockchain consortia break this deadlock

Non-Automated vs Automated Governance

Deciding

- Discuss and decide during the pre-Constitution phase
- Decide how to limit ballot access
- Writing / editing initiatives for the ballot
- Campaigning for and against initiatives

Implementing

- Implementing change, if the initiative did NOT include auto-executable code
- Logrolling and side payments (assuming these are not banned)
- Deciding the criteria that justify removing a person from the collective
- Deciding how to justly remove a person from the collective

Deciding

- Qualifying initiatives for the ballot, e.g. 'collecting signatures'
- Casting votes on initiatives
- Tallying votes; enforcing voting periods

Implementing

- Implementing the change, IF the initiative included executable code that is set to auto-execute if/when the vote passes (Ethereum's "on chain governance")
- Removing/adding a new voter to/from the collective

Conclusion:
In the future, NO Consortium will form without its own Blockchain

Questions to:

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