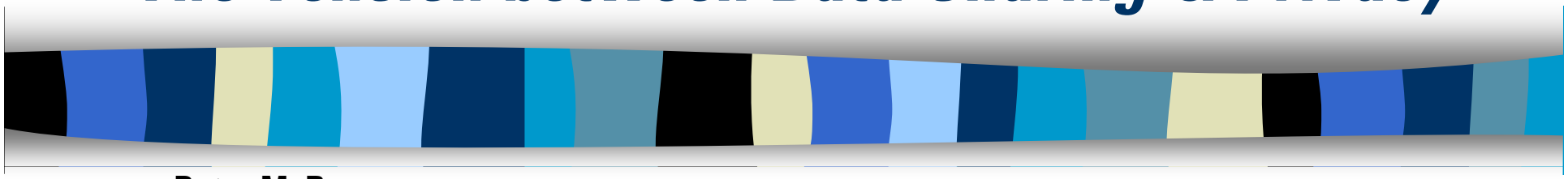
Implementation Experiences of DL: The Tension between Data Sharing & Privacy



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DLTs – Evolving thinking over last several years

Distributed Ledger Technologies appropriate for:

- Cryptocurrency transactions
- Currency transactions
- Transactions involving exchanges of assets
  - ownership and custody
- Permanent records of information
  - eg, personal identity, corporate identity, provenance
- Promises and commitments
  - eg, futures contracts, trade flows, insurance, regulatory compliance.

Strong interest now from large corporates.

Example: Real-time insurance recalibration

- Consortium of Maersk, EY, MS Amlin, XL Catlin, Guardtime, *et al.*
- DL for real-time automated insurance adjustment
- Motivation
  - New insurance products
  - Real-time calibration of risks & costs
- Ships able to re-plan journey enroute.

XL CATLIN

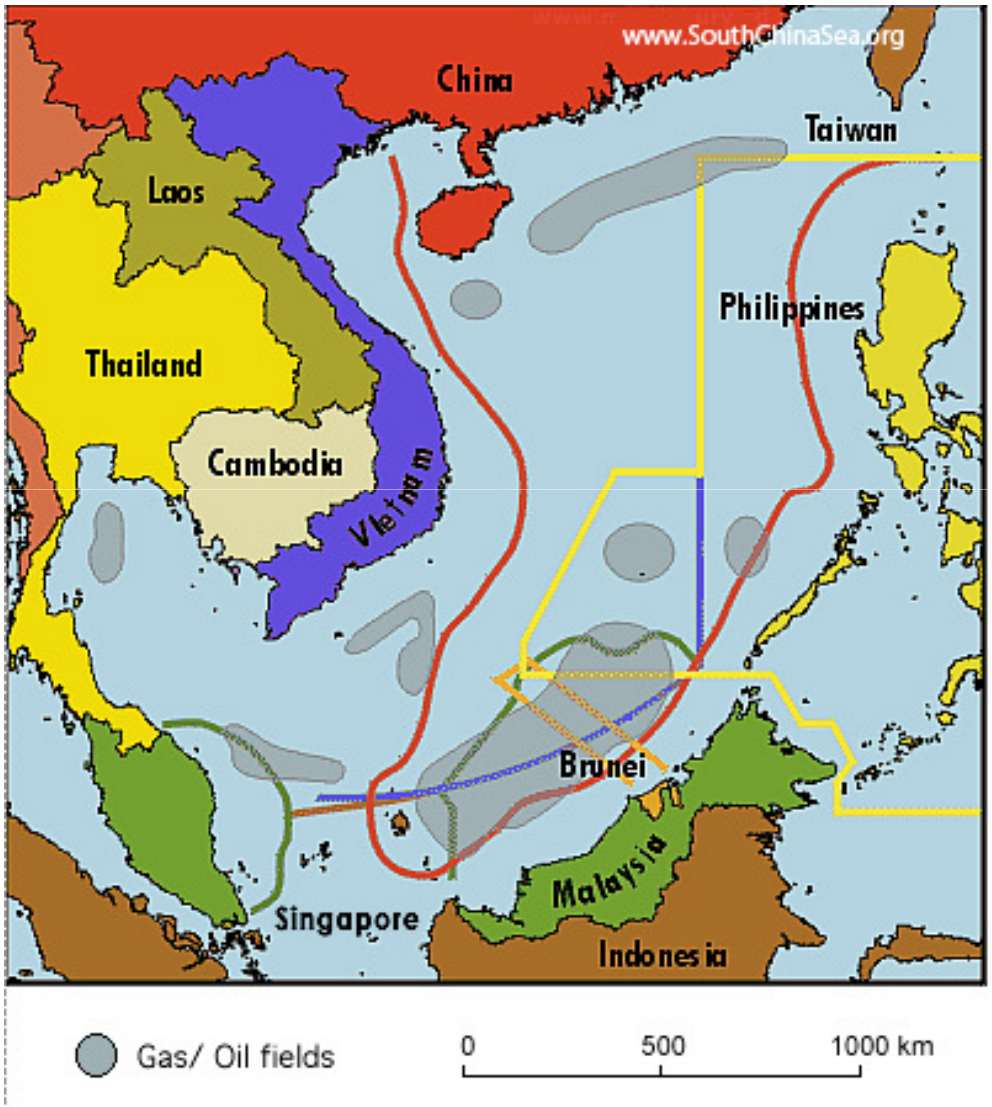
MS Amlin

EY

MAERSK

guardtime

Example: Competing claims in South China Sea



Post-trade workflows for energy commodity futures

- Consortium of 9 energy companies, banks & commodity traders
- Shared platform for management of post-trade activities
- Motivations:
  - To improve back-office efficiency and reliability
  - To enter shared data just once
  - To solve double-spend for resources
  - To automate activities in trade flow.

Shell

ING BANK

MERCURIA
ENERGY GROUP LTD

Motivations – key benefits

- For shared data: Enter data once & validate at entry
  - To eliminate need for reconciliation across organizations
- Eliminate “double-spend” problems
  - Eg, Berths in ports, ship cargoes; etc
- Automate manual processes
  - Use of smart contracts for event-driven processes
- Real-time adjustments (or nearly so)
  - Eg, insurance premiums for ships in transit
- Fast settlement
- Tamper-proof logs & provenance
  - For disagreements & disputes
  - For compliance.

Fundamental Tension: Data Sharing vs. Data Privacy

- Desire to assign
  - specific units of information/actions/permissions/obligations
  - to specific actors or agents
  - starting at a specific time
  - for a specific duration (either time-based or event-based)
  - for a specific purpose
  - and assigned to no one else at this time for this purpose.

- Want to be able to
  - Assign quickly & easily at run-time
  - Revoke quickly & easily at run-time
  - Verify consistency with other assignments
  - Verify compliance & performance.

Thank you!