

Aspects on IT Governance & Clearing Arrangements

Pre-Conference Workshop on Setting up a Derivatives Exchange



Efficient Securities Transactions



Efficient Securities Transactions

Aspects on IT Governance

Why is IT governance critical to exchanges?



Efficient Securities Transactions

Total IT cost = 30% of
total operating cost



*Total IT cost (definition in the OMX Benchmarking Study):
including cost of staff, infrastructure, external services, and depreciation*

Global trends put large pressure on exchanges



Efficient Securities Transactions

Globalization/Integration

- Alliances, links
- Round the clock trading
- Harmonization/Standardization
- Shared technology

Margin pressure

- Tight spreads pressure members
- Automation
- Outsourcing
- International investment banks

Competition

- Cross-listings
- Cross-border
- Internalization
- MTF, ATS

Technology

- Algorithmic trading increasing
- Market data links under pressure
- Volume increases
- Key to competitiveness

Consolidation

- Horizontal
- Vertical
- Cross-border

Regulation

- MiFiD*
- Sarbanes Oxley*
- Clearing and settlement initiatives

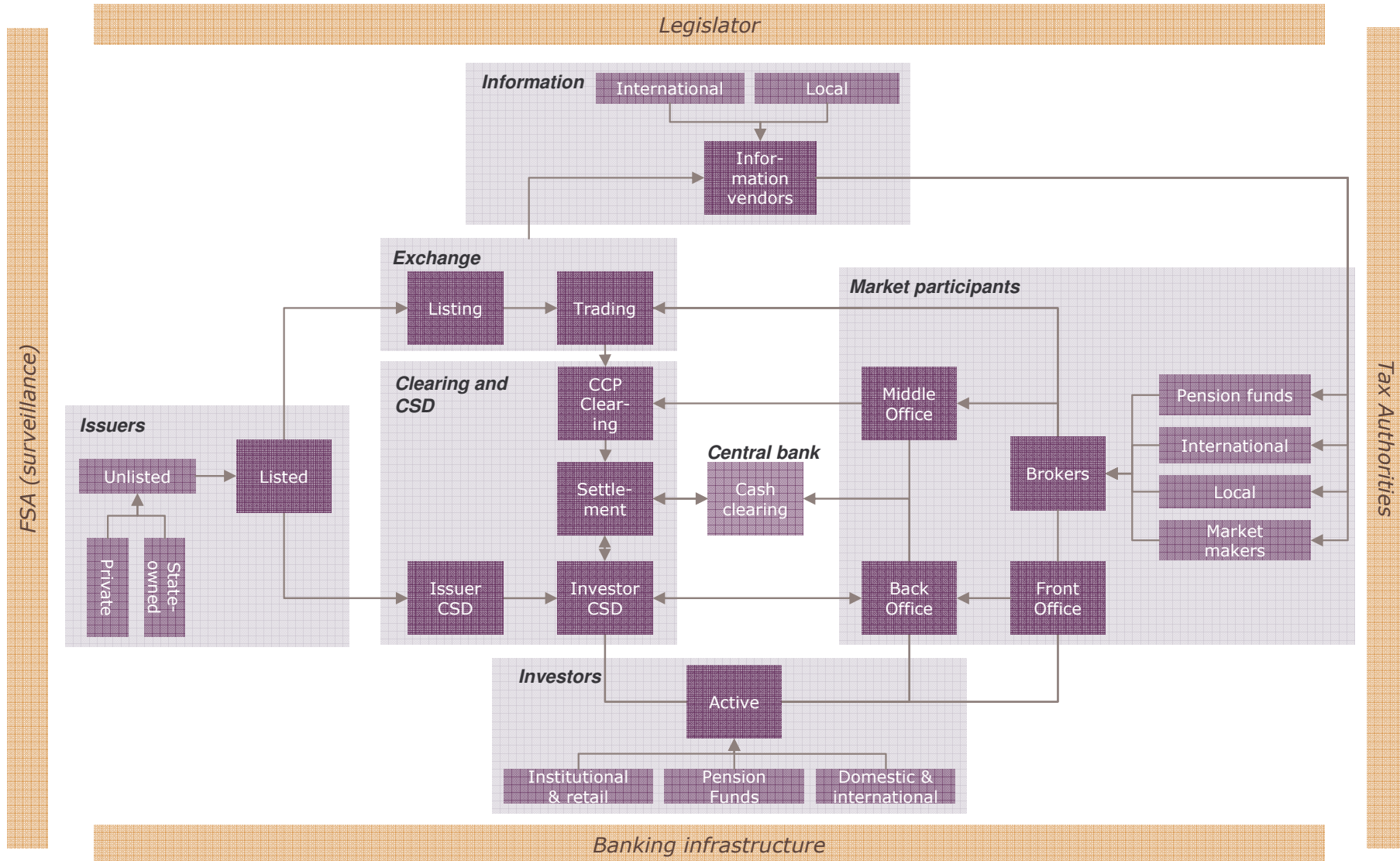
*MiFiD = Markets in Financial Instruments Directive, European harmonization of financial regulations, increasing competition in the financial market

*Sarbanes Oxley = Financial and accounting disclosure information in the US

Stakeholders and system map



Efficient Securities Transactions

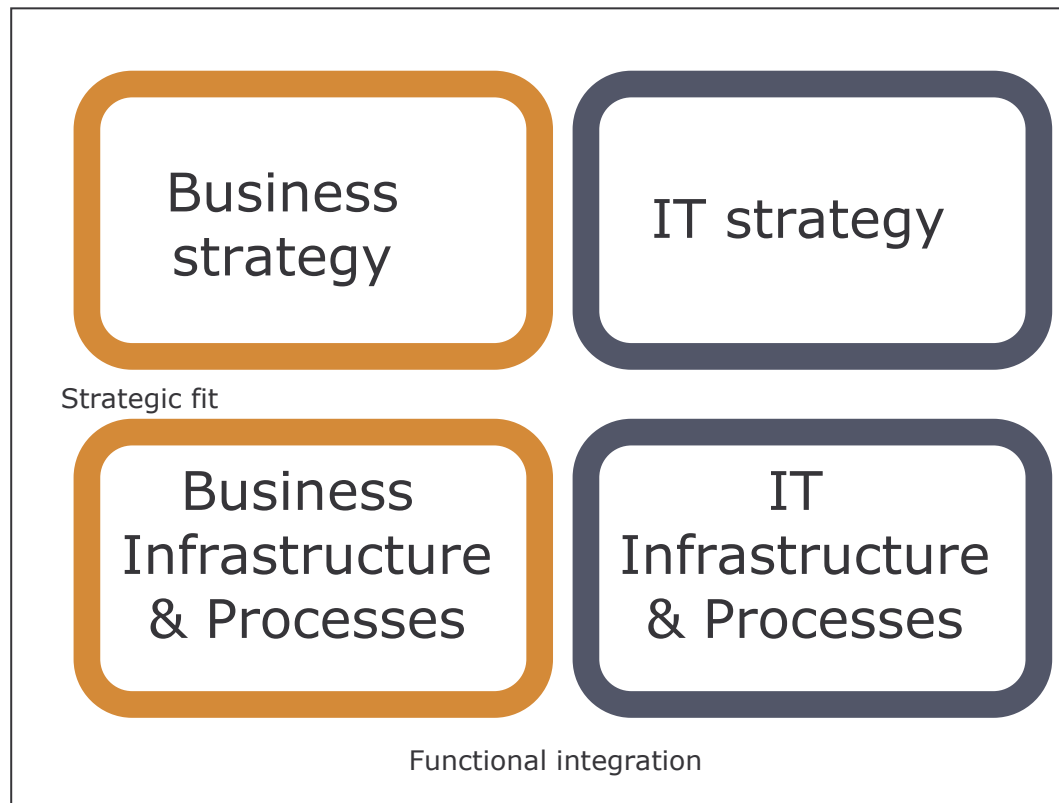


Strategic alignment and the role of technology for business strategy execution



Efficient Securities Transactions

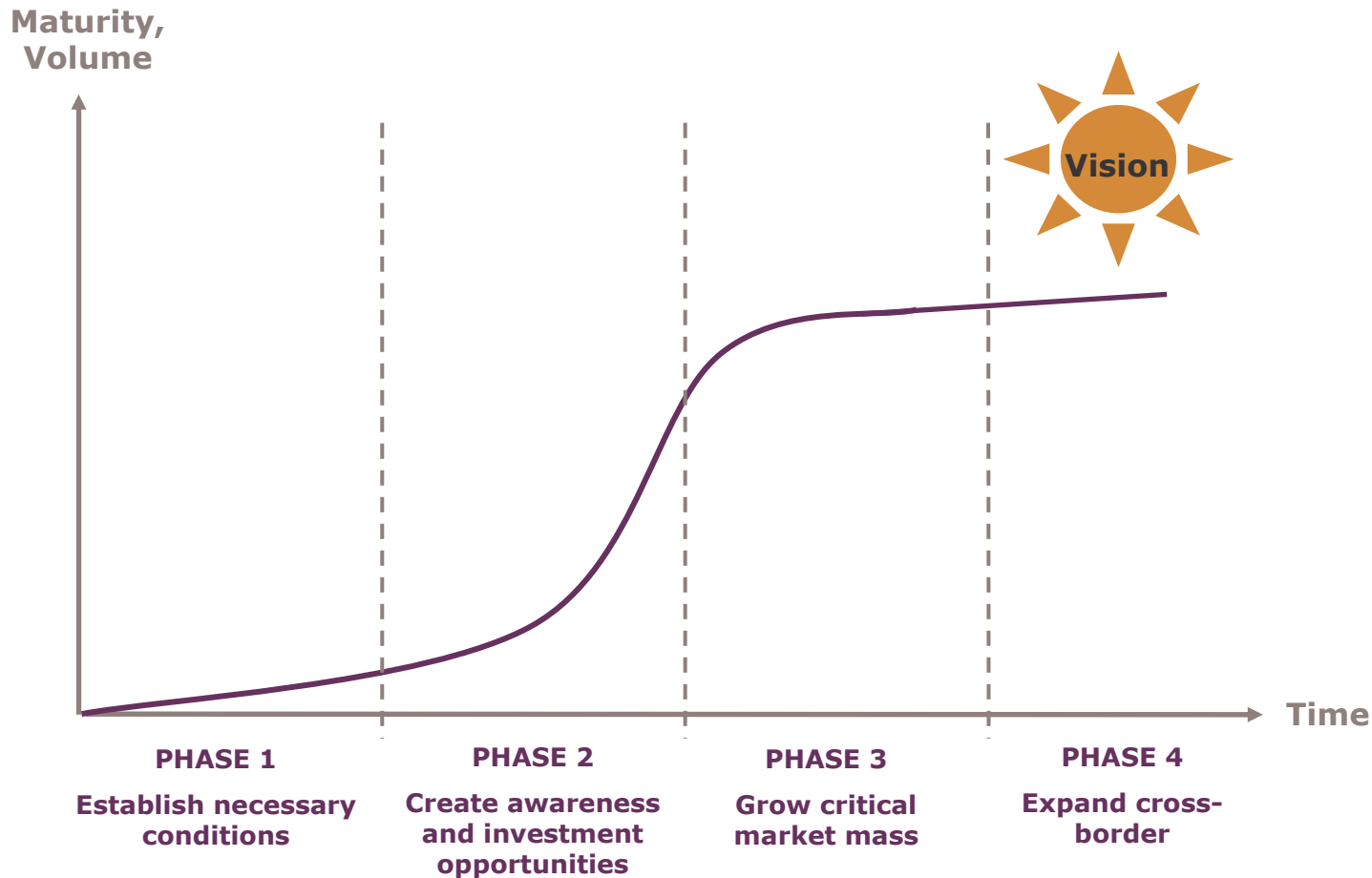
- The pace of change in the financial industry is high and increasing
- Being able to respond to change is a strategic cornerstone



The role of technology through market development might differ



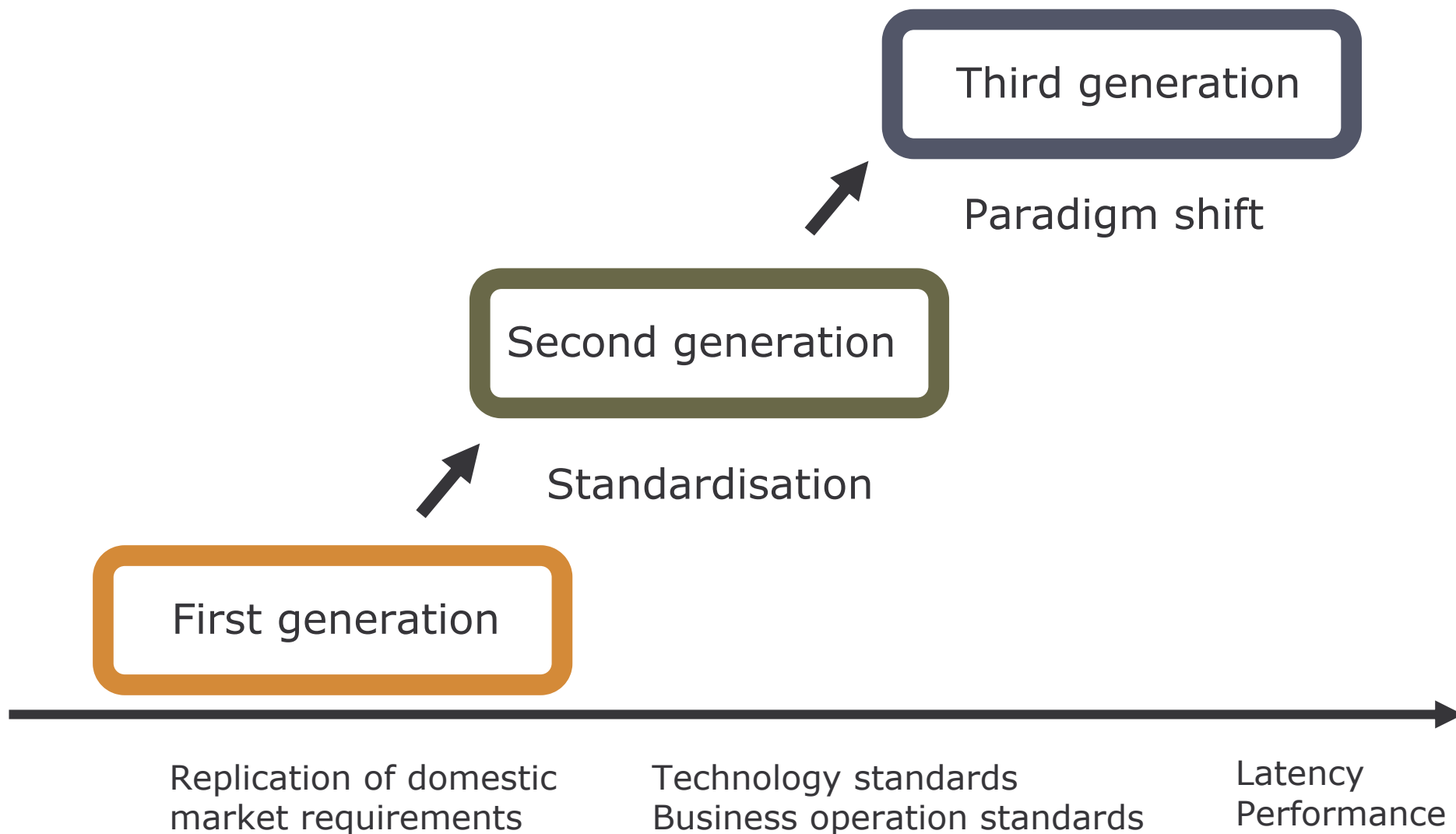
Efficient Securities Transactions



Technology generations



Efficient Securities Transactions



Five main criteria's for a marketplace system



Efficient Securities Transactions

Functional scope

- Core trading func., e.g. trading of combinations, MM,
- Core clearing func., e.g. margining and risk management

Cost efficiency

- Total Cost of Ownership

Flexibility

- Time to market
- Existing functionality
- Possibility to add functionality

Capacity & Performance

- High throughput (single node and total solution)
- Speed and latency
- High volumes

Robustness

- Availability
- Non functional requirements
- Testability

Governance strategies



Efficient Securities Transactions

- The classic buy vs. Build theory
- Technology sourcing strategies
 - Build your own custom-built solution
 - Buy exchange standard solution
 - Shared platform
- Operation strategies
 - Inhouse operation
 - Facilities management services
 - Shared infrastructure

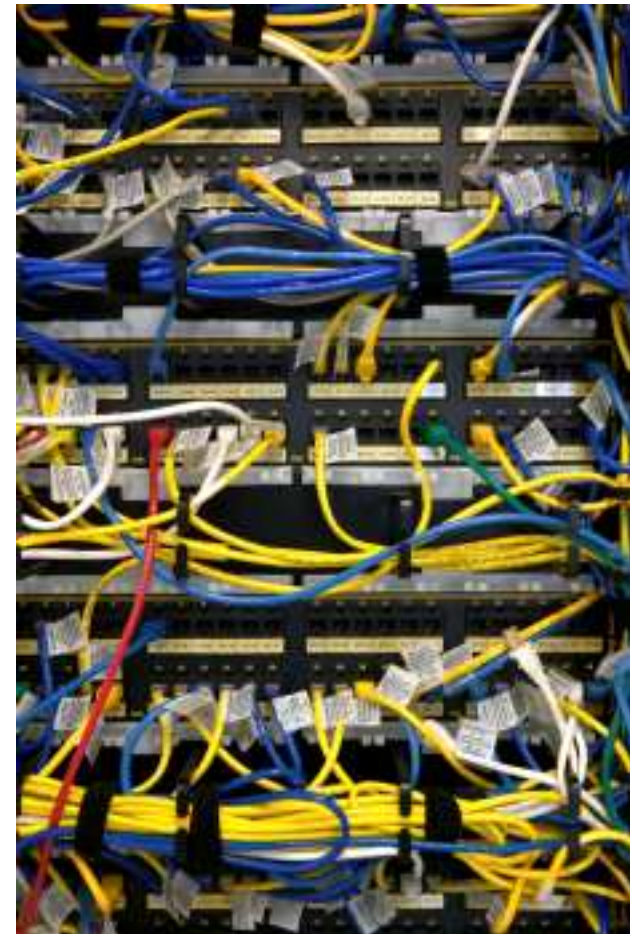


Build your own custom-built solution



Efficient Securities Transactions

- Pros
 - Capitalise on in-house knowledge and capacities
 - No priority conflicts with other clients
 - You may have a competitive advantage if you succeed to manage your team successfully
- Cons
 - Keep organisation updated on technology and standards might be a challenge
 - Scalability in organisational competence and capacity
 - No cost sharing with others



Buy exchange standard solutions



Efficient Securities Transactions

- **Establish your own infrastructure**

- Pros
 - Shared cost for development of software
 - Access to proven technology used by other marketplaces
- Cons
 - Priorities within the client community
 - Dependencies on external party for strategy execution

- **Shared platform**

- Pros
 - Short time to market for initial launch
 - Access to proven technology
 - Connectivity and potential access to large distribution network
- Cons
 - Priorities among stakeholders
 - Time to market might be long





Efficient Securities Transactions

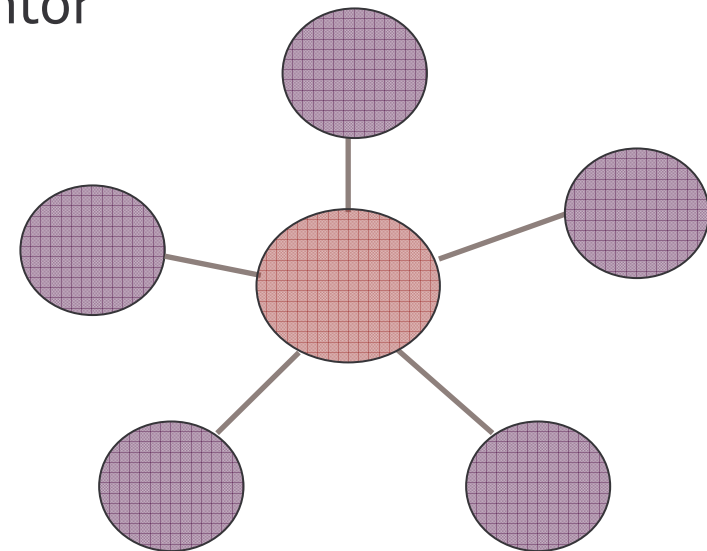
Aspects on Clearing Arrangements

Clearing Arrangements



Efficient Securities Transactions

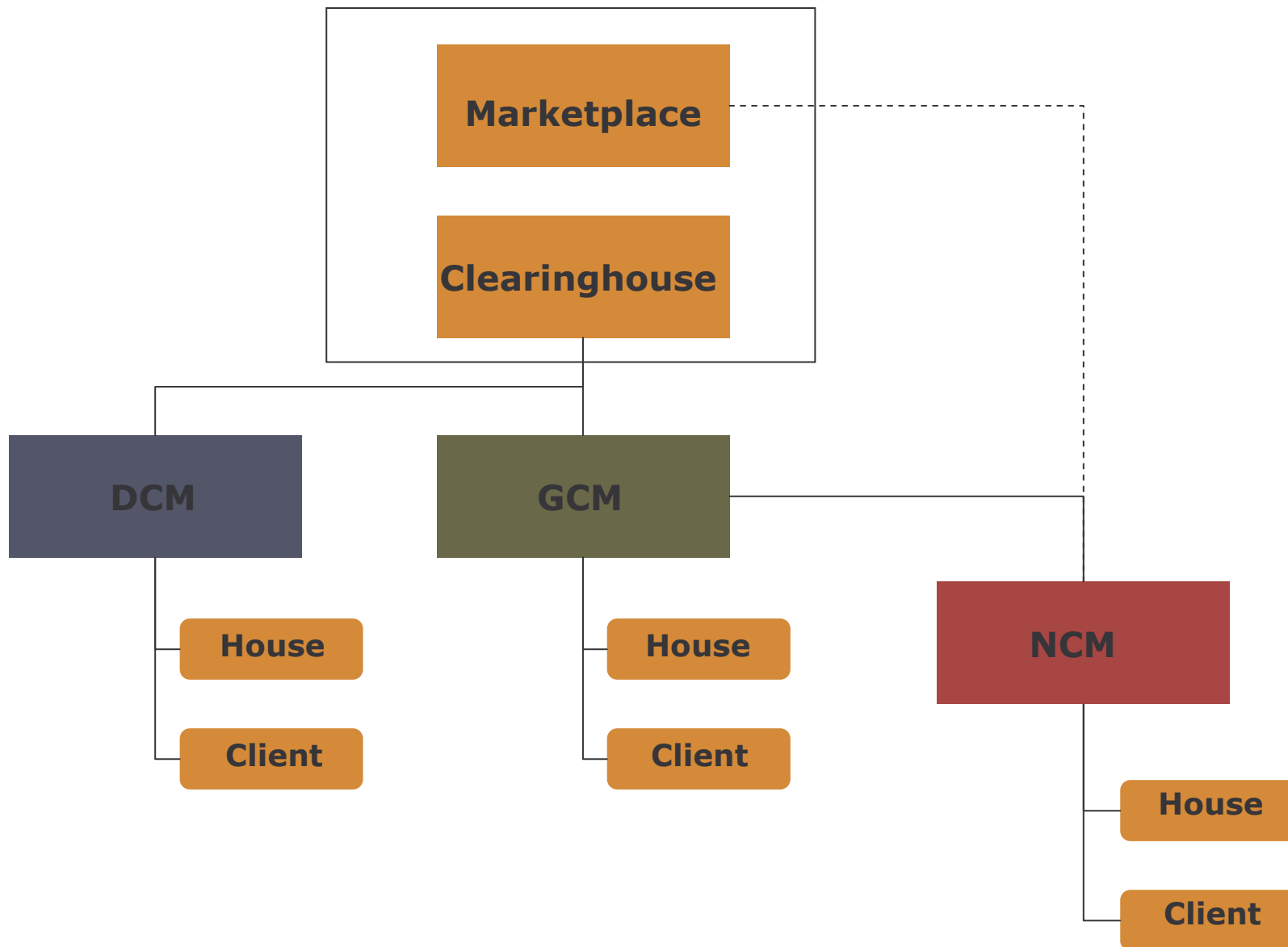
- Clearing is a key element in setting up a derivatives markets
- Clearinghouse functions as the guarantor of integrity of the market
- Clearinghouse ownership
 - Members or public company
- Member model
 - Client or Member clearing
- Novation
 - Real-time or end of day



Membership categories



Efficient Securities Transactions



Margin requirements



Efficient Securities Transactions

- Margin payments are designed to ensure that clearing members have sufficient resources to support open positions
- Margins are calculated and adjusted on a daily basis according to present market movements

Initial Margin

Protects the Clearing House against non-payment of losses by any customer.

The amount is normally set at a level designed to cover reasonably foreseeable losses on a position between the close of business on one day and the next business day.

Variation Margin

Refers to the payment of profits or losses following revaluation of a portfolio on a daily basis.

For this purpose, open positions are revalued (or marked to market) against settlement prices at the close of the previous trading day.

Variation margin covers for the potential loss concerning change in the value of the position since it was opened.

Margining methodology



Efficient Securities Transactions

- Alternative models for portfolio valuation applied
- Cross margining and offsets
- SPAN
 - Standard Portfolio Analysis of Risk is a methodology managing margin requirements for futures and options on futures.
 - It was developed by the Chicago Mercantile Exchange in 1988
 - Scenario based
- Option valuation
 - Black Scholes



Dr. Magnus Haglind
Head of Energy & Commodities
OMX Market Technology
+46 8 405 7384
Magnus.haglind@omxgroup.com