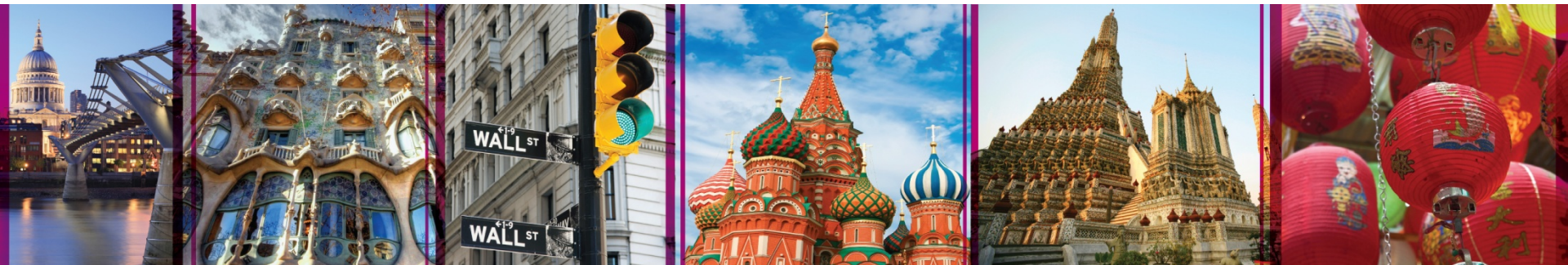


CCP Client Clearing of OTC Derivatives

Linklaters LLP

27 June 2013



Welcome

Agenda

Time	Topic	Speaker
09:30 – 09:40	Welcome and introduction	Michael Kent
09:40 – 09:50	Trade registration	Kurt Dittrich
09:50 – 10:10	Account structure and segregation	Michael Voisin
10:10 – 10:30	Default porting and default close-out	Mark Drury
10:30 – 10:45	Default fund and default management	Harry Eddis
10:45 – 11:05	Regulatory capital considerations for client clearing	Benedict James
11:05 – 11:10	Questions	
11:10 – 11:30	Coffee break	
11:30 – 12:30	Panel discussion	CME: Lee Betsill Eurex Clearing: Philip Simons ICE: Mark Woodward LCH: Philip Whitehurst NASDAQ OMX: Göran Bolin Moderated by Michael Kent

Represented clearing houses

Clearing house	OTC client cleared products covered today
CME Clearing Europe Limited (CME)	Rates
Eurex Clearing AG (Eurex Clearing)	Rates
ICE Clear Europe Limited (ICE)	Credit
LCH.Clearnet Limited (SwapClear) (LCH)	Rates
NASDAQ OMX Clearing (NASDAQ OMX)	Rates

Today's objectives

- > In the context of various CCPs, to **understand**
 - > how trade registration works
 - > what account types are available
 - > how default porting and default close-out work
 - > how default funds and processes work
 - > the regulatory capital considerations in the context of client clearing
- > To understand some of the differences between **different CCP offerings**

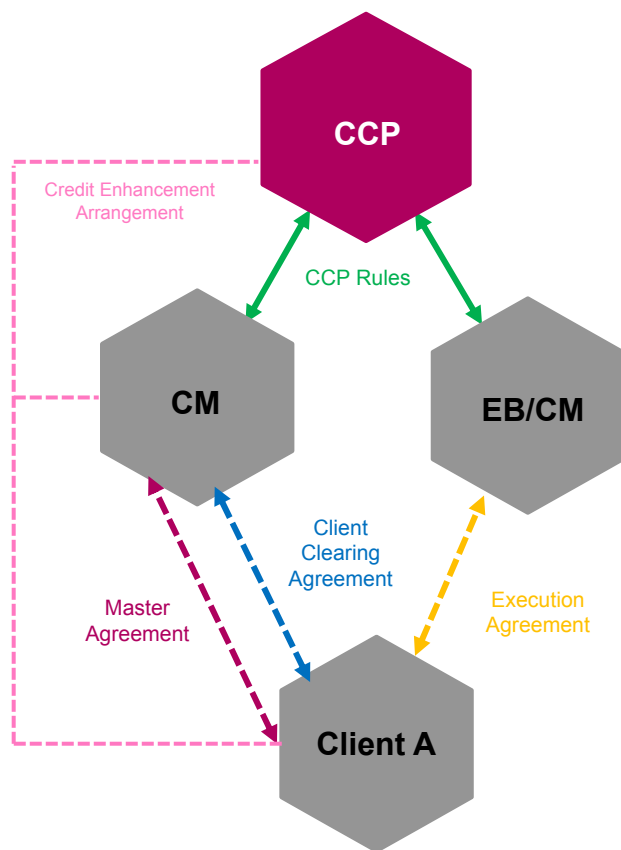
Introduction to today's sessions

Aims of client clearing

- > Broadly speaking, Clients cannot be (or choose not to be) Clearing Members
- > The current models aim to:
 - > minimise credit exposure of the parties
 - > if CM defaults
 - > allow for prompt “porting” of positions and margin (i.e. maintaining open positions) or
 - > allow for prompt close-out of positions
 - > if Client defaults, allow for prompt close-out of positions
 - > protect Client’s initial margin contributions, any excess collateral and variation margin

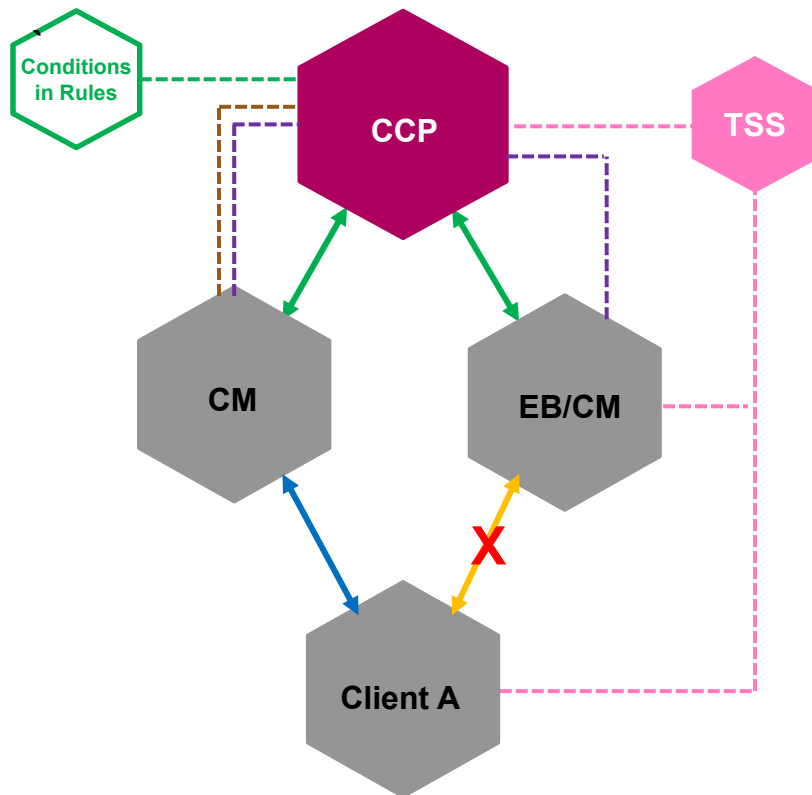
Trade registration

Contractual framework



1. **Execution Agreement** between Executing Broker (EB) and Client
2. **CCP Rules** apply between CCP and CM and CCP and EB
3. **Master Agreement** between CM and Client (e.g. an ISDA or FOA)
4. **Client Clearing Agreement** between CM and Client
5. **Credit Enhancement Arrangement** among CM, CCP and Client, which may be by way of security or contractual arrangement (or may be covered by client asset/money regime or statute)

Overview of execution process



1. Client and EB **execute a transaction** (the **Original Transaction**) bilaterally, governed by a master agreement (e.g. ISDA, FOA, DRV, FBF)
2. EB, or Client and EB **submit details** of Original Transaction to CCP via **Trade Source System**; Client nominates its CM
3. CCP **sends request to Client's CM and notification to EB**
4. **CM accepts**
5. Subject to **satisfaction of other conditions**, CCP will register **two cleared contracts**
6. Pursuant to Client Clearing Agreement, this creates a **back-to-back transaction** (CM-Client) under the Client Clearing Terms and associated master agreement
7. Pursuant to Execution Agreement, the **Original Transaction** is terminated

Execution and acceptance for clearing

- 1) Contractual framework
- 2) Execution of original bilateral OTC transaction under master agreement
- 3) Submission of details of original transaction to CCP

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Via	<ul style="list-style-type: none"> • Clear Port API • Approved Trade Source System: MarkitWire, Bloomberg and Tradeweb (platform agnostic) • Direct Connection by MQ with a Clearing Member and platform • Standard sources by Clearing Members which have entered into User License Agreement, or clients authorised to submit transactions 	Approved Trade Source System or Information Warehouse; For OTC IRS service: currently MarkitServ, opening for others imminent	Approved Trade Processing Platform Currently ICE Link, MarkitWire, Bloomberg, Tradeweb, MarketAccess	Approved Trade Source System Currently MarkitWire, Bloomberg, Tradeweb	<ul style="list-style-type: none"> • Genium INET Nordic system • Interfaces include OMnet API, FIX Protocol or Genium INET Workstations or report via telephone, e-mail or public information distribution systems
Rules	Clauses 1.2, 1.4, 5, 6 Clearing and Settlement Procedures; Rule 5.2.1 Clearing Rules	Chapter VIII Part 1 Number 1.2.1 Clearing Conditions	Section 4 CDS Procedures	Procedures 2C3.4	Section 3.1.8, 3.4 Clearing Regulations

Execution and acceptance for clearing

- 4) Information of, and (unless parties to original transaction are Clearing Members) acceptance by Clearing Member (nominated by Client) of original transaction

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Acceptance	Automatic Acceptance if within Client Credit Limit	Acceptance by Clearing Member (deemed acceptance if Clearing Member is Executing Broker)	Must be confirmed by the parties to the Transaction	Acceptance by Clearing Member (deemed acceptance if Clearing Member is Executing Broker)	Must be confirmed by the parties to the Transaction
Rules	Rule 5.2 Clearing Rules; Clause 2.2 Clearing and Settlement Procedure	Chapter VIII Part 1 Number 1.2.1 (ii)(2)(B) Clearing Conditions	Parts 4 and 15 of the Clearing Rules*; CDS Procedures <i>* Certain references to "Clearing Rules" are to the rules published for consultation</i>	General Regulation 47 Procedures 2C3.2	Section 3.4.6, Clearing Regulations

Execution and acceptance for clearing

5) Requirements for Acceptance for Clearing/Registration

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Submission	Accepted route set out in Clearing Procedures or Contract Module	Proper presentation and submission of transaction	Proper presentation and submission of transaction	Proper presentation and submission of transaction	Proper presentation and submission of transaction
Consent	Party to original transaction either Clearing Member or authorisation by Clearing Member	Parties to original transaction either Clearing Member(s) or take-up by selected Clearing Member(s)	Party to original transaction either Clearing Member or authorisation by Clearing Member	Acceptance by Clearing Member (if required)	Must be confirmed by the parties to the Transaction
Rules	Rule 5.2 Clearing Rules; Clearing Procedures Clause 4 Clearing and Settlement Procedure	Chapter VIII Part 1 Number 1.2.3 Clearing Conditions	Rule 401 Clearing Rules; CDS Procedures	Clause 4.1 Client Clearing Terms General Regulation 47 Procedures 2C3.2	Section 3.4.6 Clearing Regulations

Execution and acceptance for clearing

6) Requirements for Acceptance for Clearing/Registration (continued)

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Eligibility	Must satisfy Contract Specification	Must meet eligibility criteria	As specified in Contract Terms contained in the CDS Procedures	Must meet eligibility criteria	Application for Registration must be approved by Clearing House
Margin	Sufficient Collateral subject to credit line	Presence of sufficient cover	Presence of sufficient cover (alternatively within applicable credit limit or credit line)	Presence of sufficient cover (alternatively within applicable credit limit or credit line)	Determined at least once per day in accordance with Clearing House model

Execution and acceptance for clearing

7) Requirements for Acceptance for Clearing/Registration (continued)

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Acceptance by CCP	<p>May be declined by CME in case of</p> <ul style="list-style-type: none"> • Conflicting incomplete or erroneous information • Transactions in breach of rules • Regulator's request • Inadvisable in CME's discretion • Void, illegal or unenforceable under Applicable Law 	<p>Immediate acceptance by Eurex Clearing if novation criteria are met subject to emergency resolution</p>	<p>CDS Trade Particulars must meet the requirements of Section 4 of the CDS Procedures</p>	<p>Registration may be declined if advisable for protection of LCH or market</p> <p>Risk-reducing transactions must be registered</p>	<p>Registration may be declined, if Transaction not in the interest of sound clearing operations or would violate the rules and regulations of NASDAQ OMX</p>

Execution and acceptance for clearing

8) Creation of Transactions between CCP and Clearing Members and Clearing Members and Clients; Termination of original OTC Transaction

		CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
CCP – Clearing Members	Timing	Upon receipt of transaction, successful credit checks and registration (basically real time)	From 12 August 2013, automatically and immediately upon eligibility criteria being met	Automatically upon confirmation of an approved trade and notice given by CCP	Effectively real time	At Registration
	Rules	Rule 5.2.1 Clearing Rules	Chapter VIII Part 1 Number 1.2.3 Paragraph (1) Clearing Conditions	Rule 401(a)(ix) Clearing Rules; Section 4 of the CDS Procedures	General Regulation 47(d)	Section 3.1 Clearing Regulations
Clearing Member – Client	Timing	Left to parties of original transaction	Upon conclusion of CCP Transaction or left to parties	Upon conclusion of CCP Transaction	Immediately upon registration	Left to parties of original transaction
	Rules	----	Clause 8.2, 9.4 of Part 2 Clearing Agreement (ECM, ICM)	Rule 401(n) Clearing Rules	Clause 1.3 Client Clearing Terms (if applicable)	----

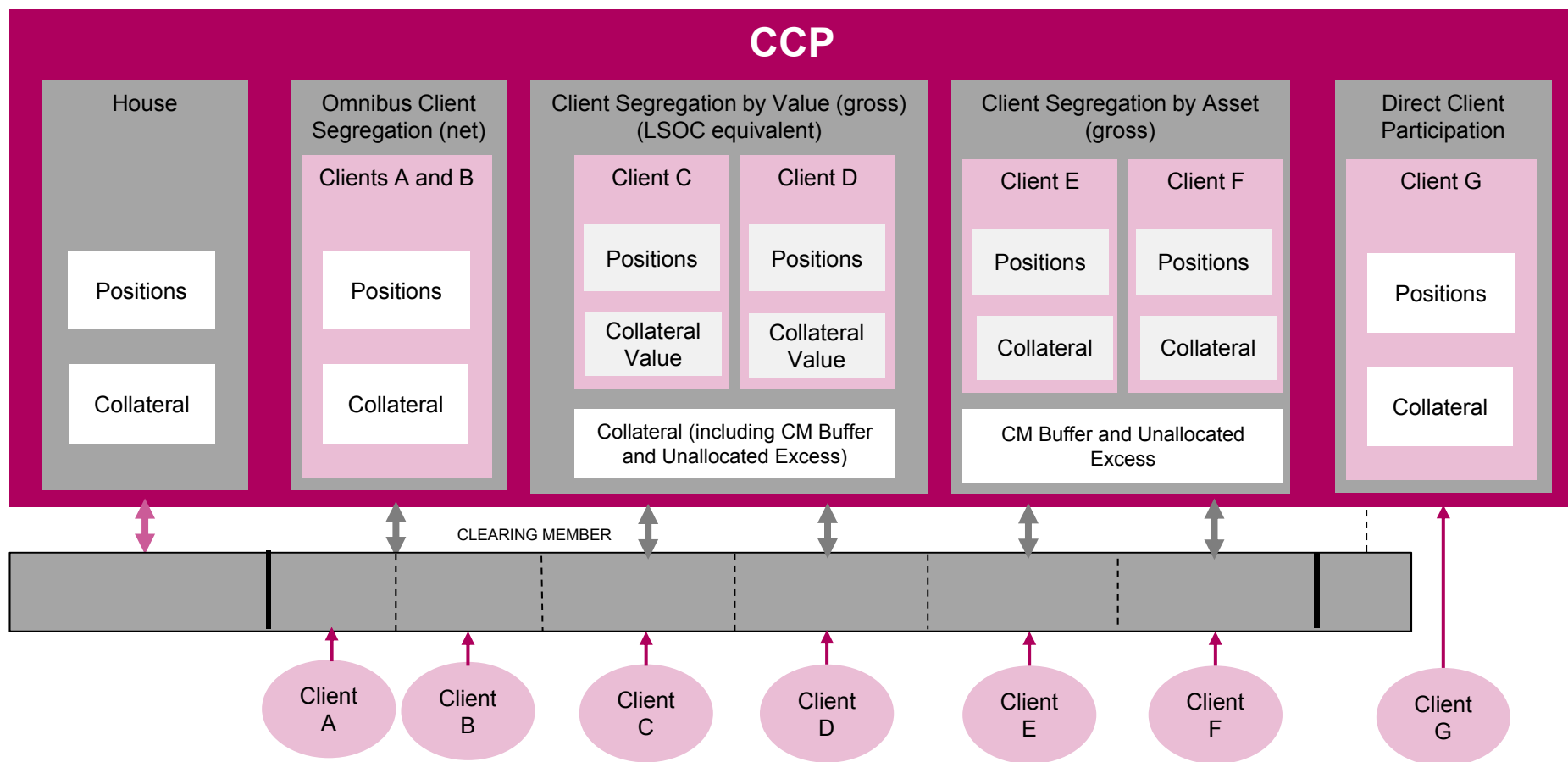
Execution and acceptance for clearing

9) Creation of Transactions between CCP and Clearing Members and Clearing Members and Clients; Termination of original OTC Transaction (continued)

		CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Termination of original OTC Transaction	Termination	Left to parties of original transaction	Left to parties of original transaction	Automatic discharge of original contract	Left to parties of original transaction (Automatic cancellation if Clause 1.3 Execution Terms applies)	Left to parties of original transaction
	Rules	----	Chapter VIII Part 1 Number 1.2.1 Paragraph (5) Clearing Conditions	Rule 402(b) Clearing Rules	----	----

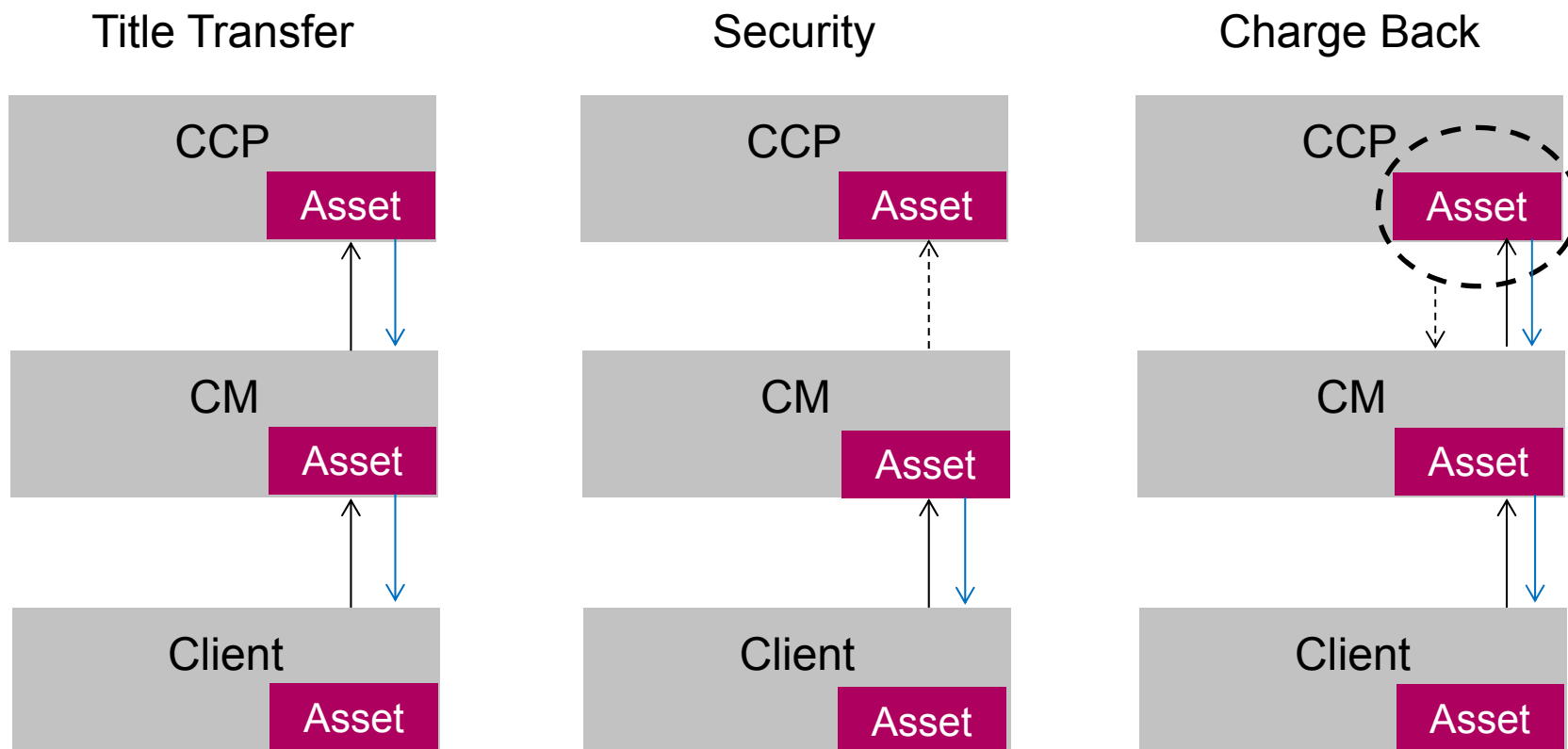
Account structure and segregation

Account segregation

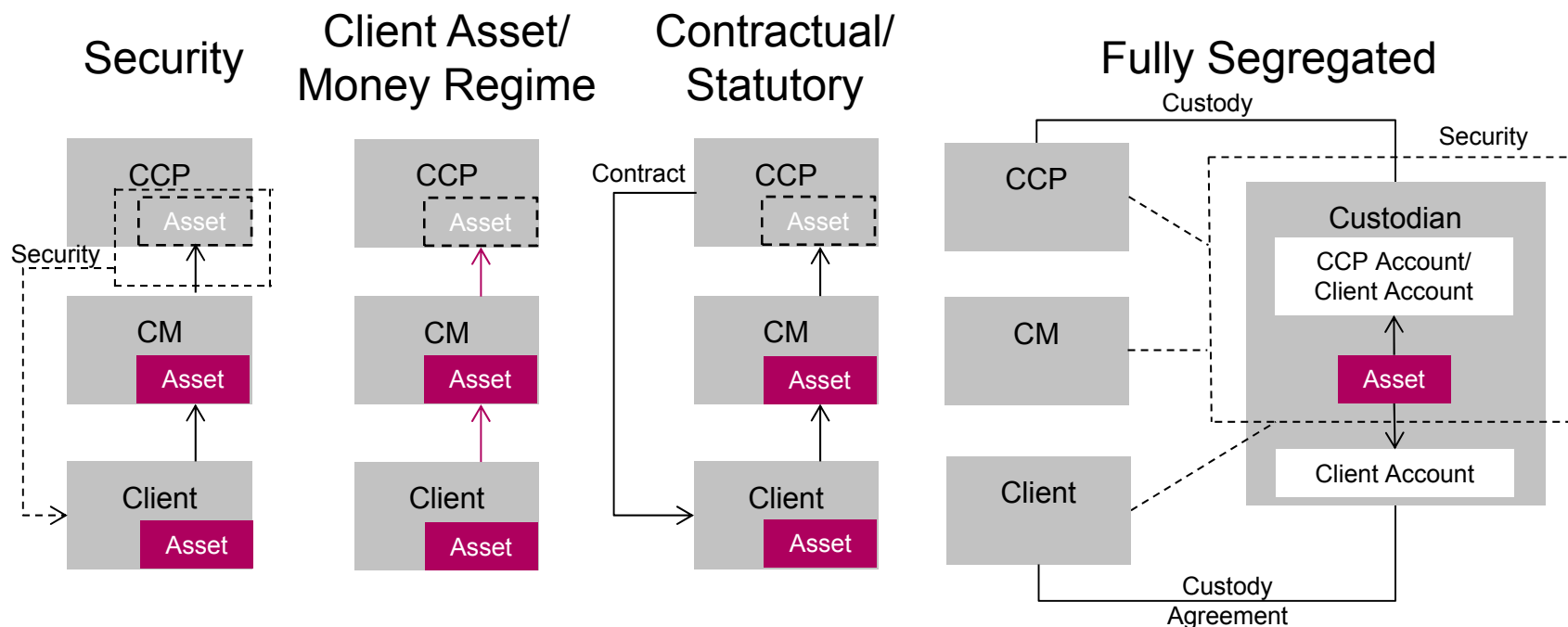


Asset segregation and credit exposure to CCP

Non-Cash Collateral



Credit exposure to Clearing Members



Challenges for CM credit mitigation

Security	Client Asset/ Money Regime	Contractual	Statutory	Fully Segregated
Difficult to create in all jurisdictions	Inconsistent EU Rules. Not available in all jurisdictions	Not insolvency remote in all jurisdictions	Only available in limited jurisdictions	Costly to implement
Difficult to achieve appropriate priority in all jurisdictions	Transfer to CCP may defeat protection	Greater reliance on reasoned opinions required	Some statutes provide limited protection	Operationally more challenging
May not achieve zero risk weighting	Will not achieve zero risk weighting	Will not achieve zero risk weighting	Requires additional structuring to achieve zero risk weighting	Commercial/documentation issues

Account overview

CCP	Account		Book entry Segregation of Positions	Book Entry segregation of Collateral (IM)		Method of providing Non-Cash Initial Margin to CCP	Client Asset/ Money Protection	Direct Participation	Full Segregation
				By Value	By Asset				
CME	Net Omnibus		✓	Net	×	Title Transfer	✓ ⁽¹⁾	×	×
	Gross Omnibus		✓	Gross	×	Title Transfer	✓ ⁽¹⁾	×	×
	Individual Segregated		✓	Gross	×	Title Transfer	✓ ⁽¹⁾	×	×
	Fully Segregated*		✓	Gross	✓	Title Transfer	✓ ⁽¹⁾	×	✓
Eurex Clearing	Omnibus	Net	✓	Net ⁽²⁾	×	Security	✓ ⁽¹⁾	×	×
		Gross*	✓	Gross	×	Title Transfer	×	×	×
	Individual		✓	Gross	✓	Title Transfer	×	×	✓ ⁽⁴⁾
ICE	Net Omnibus Client Segregation (ETD)	(5)	✓	Net	×	Title Transfer	×	×	×
		(6)	✓	Net	×	Title Transfer	✓	×	×
	Gross Omnibus Client Segregation (OTC)	(5)	✓	Gross	×	Title Transfer	×	×	×
		(6)	✓	Gross	×	Title Transfer	✓	×	×

Account overview

CCP	Account	Book entry Segregation of Positions	Book Entry segregation of Collateral (IM)		Method of providing Non-Cash Initial Margin to CCP	Client Asset/ Money Protection	Direct Participation	Full Segregation
			By Value	By Asset				
ICE	Sponsored Principal*	✓	Gross	✓	Title Transfer*	x	✓	✓
	Alternative Individual Segregated Account*	✓	Gross	x*	Title Transfer*	x	x	x
LCH	Net Omnibus (ETD & OTC) ⁽⁷⁾	✓	Net	x	Security	x ⁽¹⁾	x	x
	OSA Omnibus Net Segregated (OTC) ⁽⁸⁾	✓	Net	x	Security	x ⁽¹⁾	x	x
	LSOC (FCM Account)	✓	Gross	x	Security	x	x	x
	ISA-Individual Segregated (OTC)	✓	Gross	x	Security	x ⁽¹⁾	x	x
	Full Asset Segregated*	✓	Gross	✓	Security	x ⁽¹⁾	x	x
	Full Physical Segregated*	✓	Gross	✓	Security	x	x	✓

Account overview

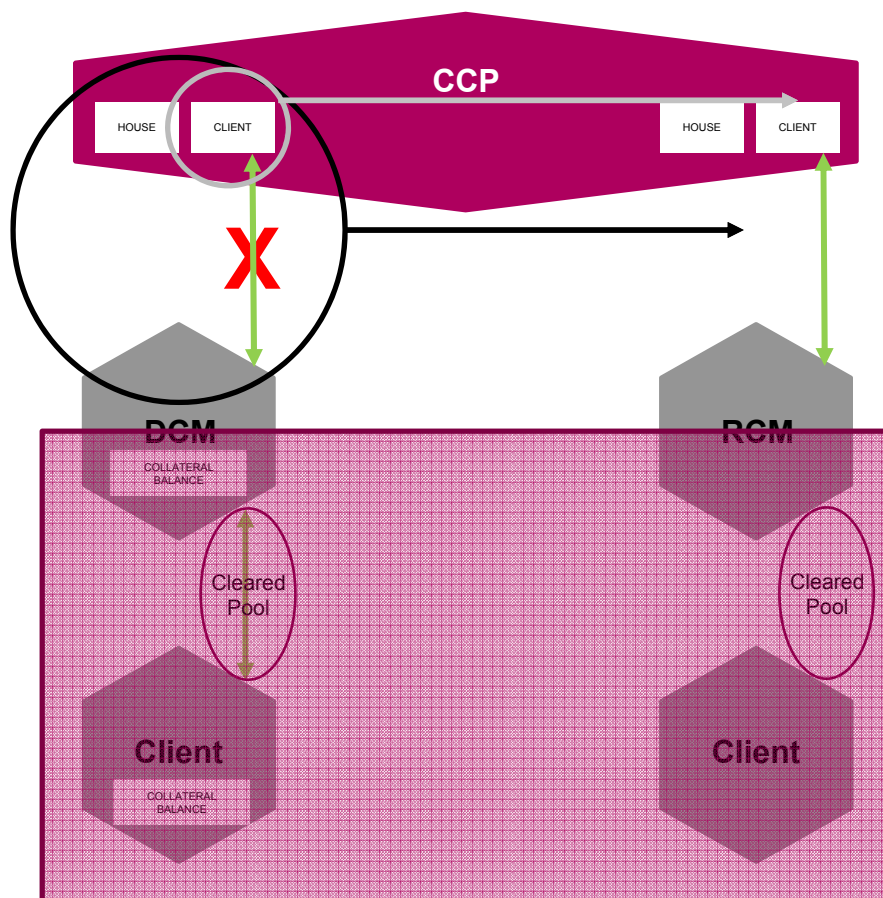
CCP	Account	Book entry Segregation of Positions	Book Entry segregation of Collateral (IM)		Method of providing Non-Cash Initial Margin to CCP	Client Asset/ Money Protection	Direct Participation	Full Segregation
			By Value	By Asset				
NASDAQ OMX	Direct Pledge	✓	Gross	✓	Security	x	✓	✓
	Indirect Pledge	✓	Net	x	Security	x ⁽¹⁾	x	x
	Omnibus	✓	Net	x	Security	x ⁽¹⁾	x	x
	Single Client	✓	Gross	x	Security	x ⁽¹⁾	x	x
	Individual Client Segregated (ICA)	✓	Gross	✓	Security	x ⁽¹⁾	x	x

1. CASS compliant client money transaction account is available to UK Clearing Members
2. Gross for disclosed clients, although close-out is on a net basis across all Clients
3. Account features Interim Participation by Client in connection with porting
4. Direct collateral delivery option under development
5. Title Transfer model (available to all Clearing Members)
6. Client asset protection model (only available to UK Clearing Members)
7. Clearing Member determines set of participants in the account
8. Client determines set of participants in the account

* Account under development, details may be subject to change

Default porting and default close-out

Default porting – general principles

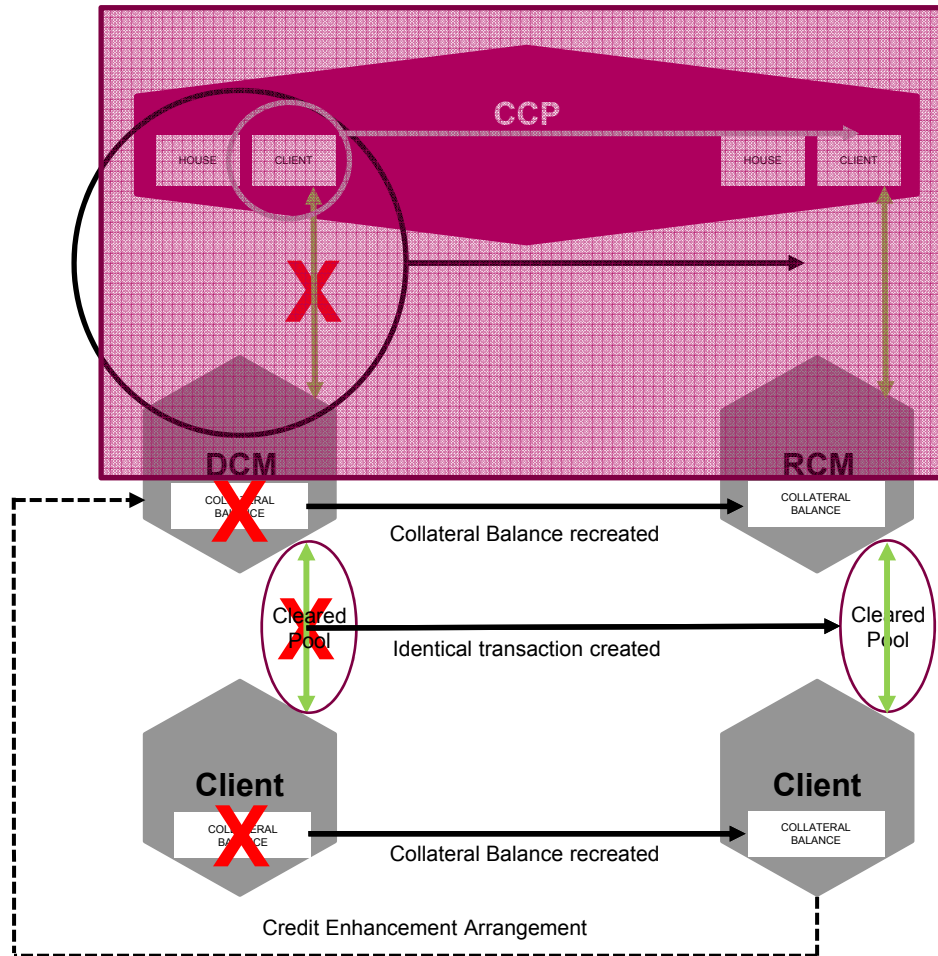


1. If the CM defaults or is likely to default, CCP may issue a default notice (a **Clearing Default**)

Top half

2. If the Client has entered into **appropriate/equivalent arrangements** (porting agreement and a Client Clearing Agreement) with another CM (the Receiving CM, or **RCM**), **default porting** may take place: open contracts and Client IM may be transferred

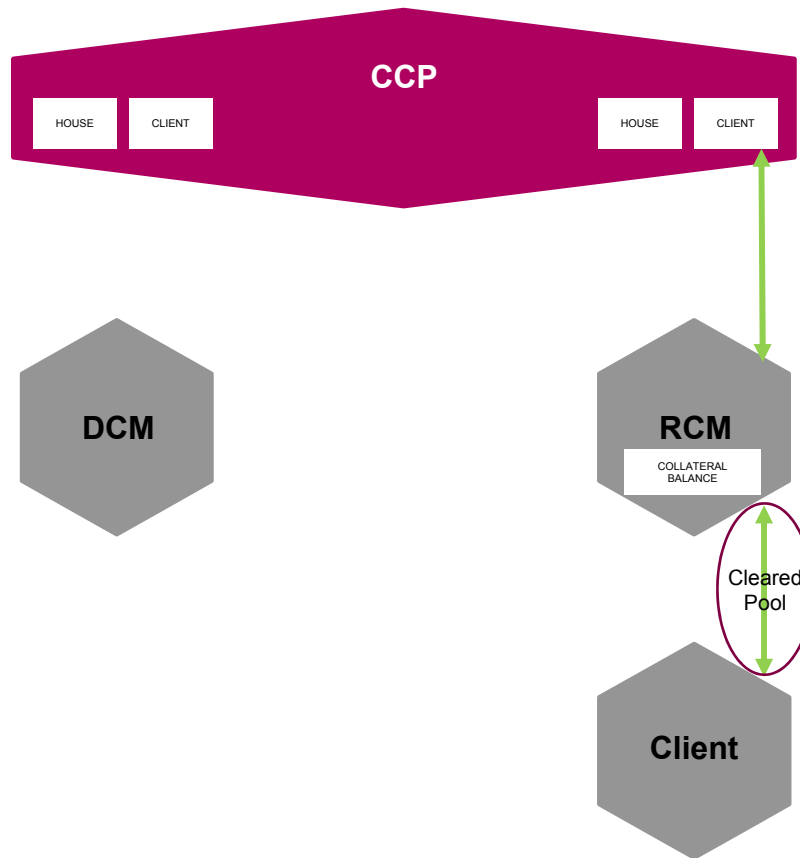
Default porting – general principles



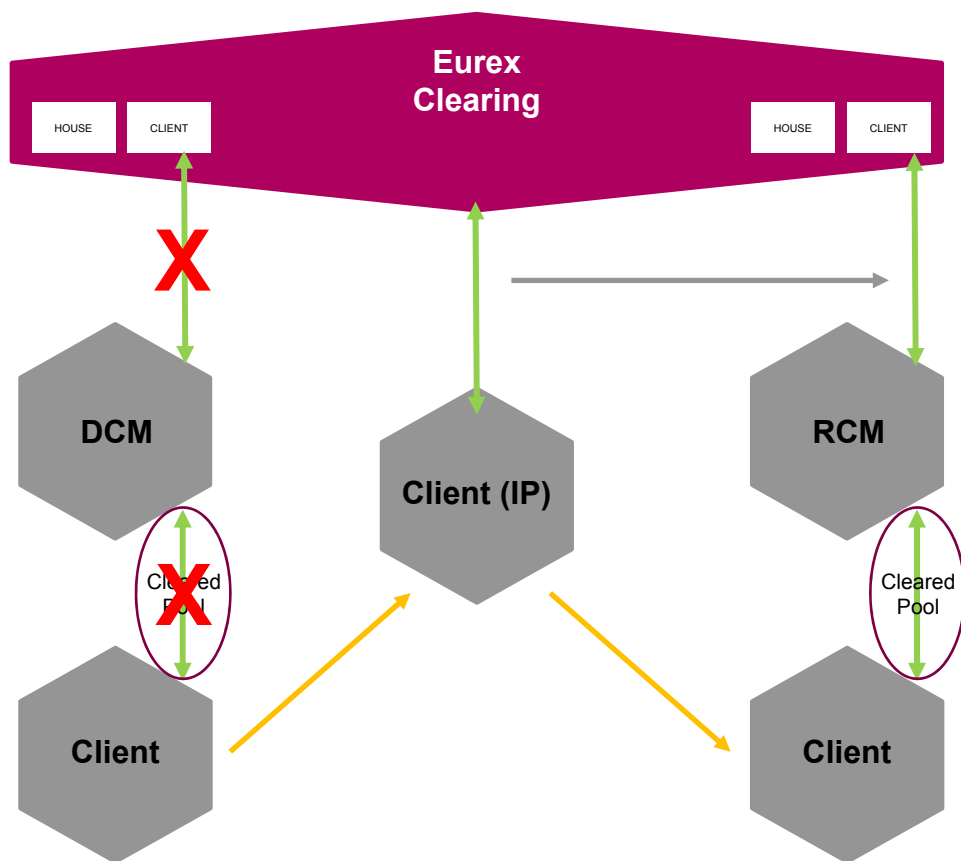
Bottom half

3. A Clearing Default causes the transactions between the Defaulting CM (DCM) and the Client to be **closed out** and the Credit Enhancement Arrangement to be **engaged**
 - Collateral Balance “held” by DCM is **written down**
 - **Normal close-out**
4. Identical transactions are **automatically created** between the Receiving CM (RCM) and the Client
5. The Client’s and/or RCM’s Collateral Balance with the Receiving CM is **written up**
5. If there is a security Credit Enhancement Arrangement, CM holds **equity of redemption** in any excess of Client Account IM over its secured obligations. Otherwise, this is dealt with via a contractual obligation in the Client Clearing Agreement

Default porting – general principles



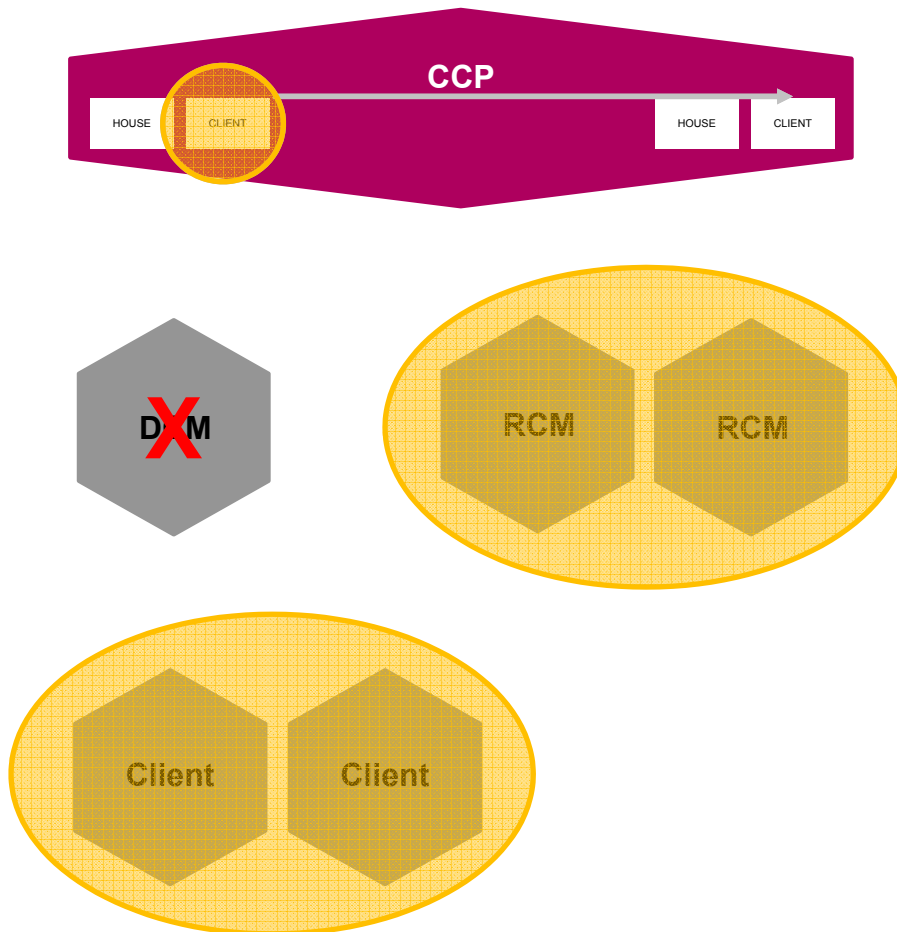
Default porting – variations



Eurex Clearing

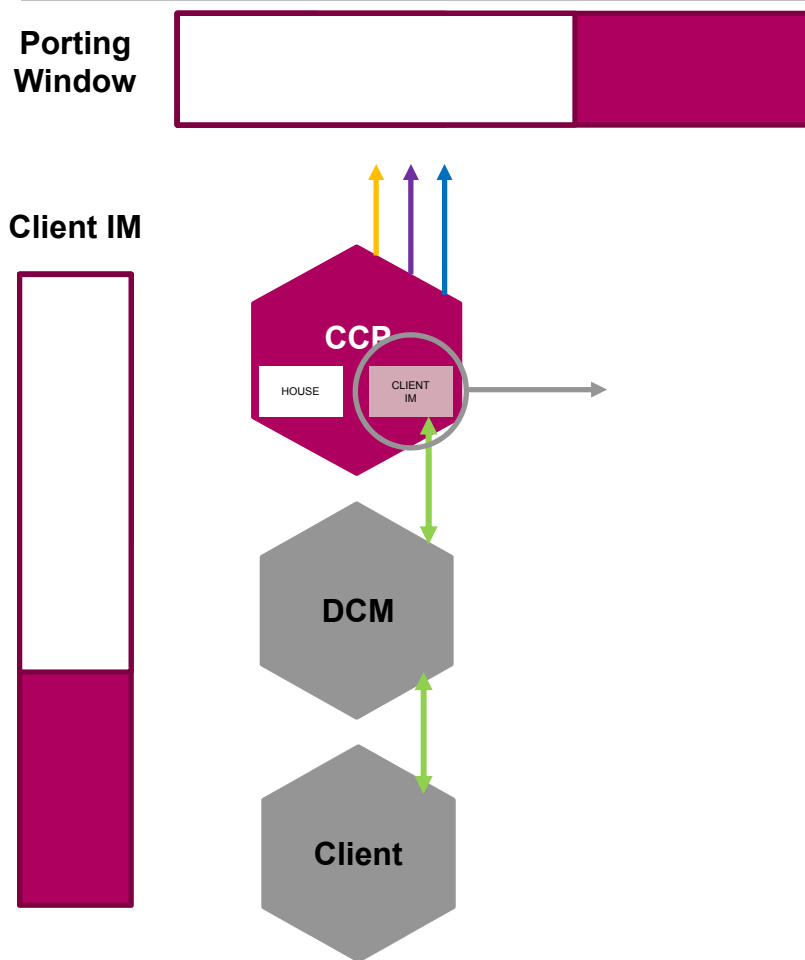
1. Clearing Default causes the close-out of the transactions between Eurex Clearing and the DCM and the DCM and the Client
2. Client will become **Interim Participant (IP)** for a logical second or for a period of up to 5 days, i.e. new transactions (having the **same economic terms** as the closed-out transactions between Eurex Clearing and the DCM) will be established between Eurex Clearing and the Client
 - **Opening consideration** paid and other requirements met
3. Either:
 - **IP becomes Client of RCM**
 - Novation of transactions
 - Margin requirements met
 - **IP fails to become a Client of RCM** and close-out takes place

Default porting – variations



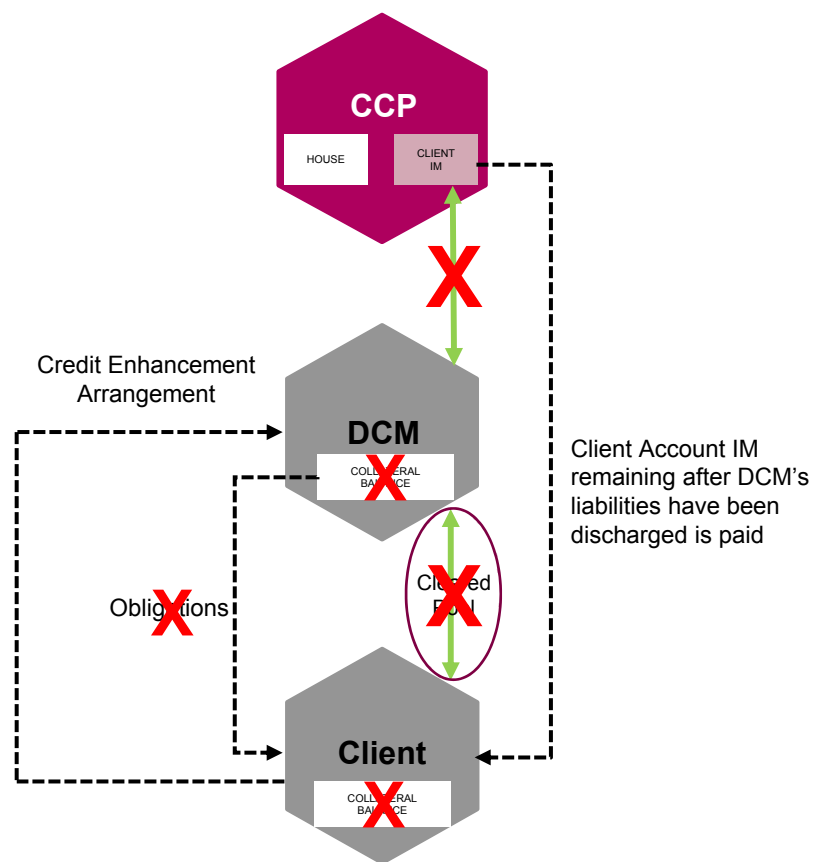
1. What **margin** is actually ported?
 - Liquidated value?
 - Assets?
2. Back-up members?
 - Single?
 - Multiple?
3. Clients
 - Individual default porting?
 - Omnibus default porting?

Default porting – practical issues



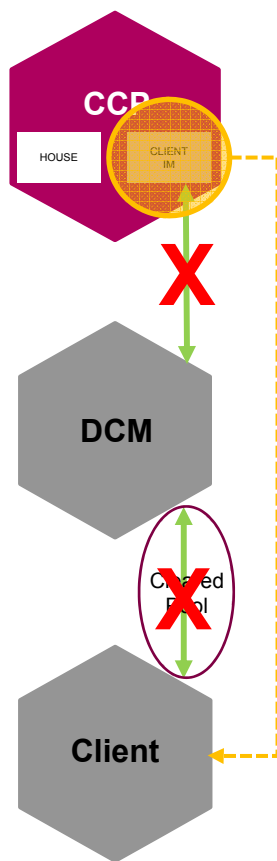
1. Clearing Default occurs
2. CCP must ascertain (amongst other things) within the **Porting Window**:
 - > identity of Client's RCM(s)
 - > more difficult where multiple Clients or multiple RCM's
 - > preparedness of RCM(s) to act as such
 - > any shortfall of margin (and call from RCM)
3. This takes time, and increases likelihood that assets will need to be **liquidated**
4. What is ported **may only be cash**
5. If **collateral transformation** has occurred, liquidation proceeds (and any transferred assets) will be based on post-transformation assets
6. Amounts payable between DCM and Client after default porting?

Default close-out



1. Where default porting does not take place, DCM's open positions with CCP are **closed out**
2. CM's liabilities to CCP are discharged with the margin held
3. DCM/Client positions are closed out at the same value
4. Collateral Balance is netted against that value in the ordinary way
5. CCP pays the remaining Client Account balance directly to Client pursuant to Credit Enhancement Arrangement
6. The amount received by Client is applied in **discharge of CM's obligations** to Client
7. If there is a security Credit Enhancement Arrangement, DCM holds **equity of redemption** in any excess of Client Account IM over its secured obligations. Otherwise, this is dealt with via a contractual obligation in the Client Clearing Agreement

Default close-out – variations



1. What **margin** is actually returned?

- Liquidated value?
- Assets?

2. Credit enhancement?

- Security?
- Client Asset/Money Regime?
- Contractual?
- Statutory?

Client documentation

- > Own documentation, based on ISDAs, FBFs, DRV etc.
- > ISDA/FOA Addendum
- > German banking association version
- > French banking federation version?
- > Others?

Default porting and default close-out overview

CCP	Account		What is ported?		Porting window?*	What is returned?		Backup members**		Client documentation	
			Liquidated Value	Assets		Liquidated Value	Assets	Single	Multiple	Own	Addendum
CME	Net Omnibus		✓	×	36 hours	✓	×	✓	✓*	×	✓
	Gross Omnibus		✓	×	36 hours	✓	×	✓	✓	×	✓
	Individual Segregated		✓	×	36 hours	✓	×	✓	✓*	×	✓
	Fully Segregated*		×	✓	36 hours	×	✓	✓	×	×	✓
Eurex Clearing	Omnibus	Net	✓	✓	24 hours	×	✓	✓	×	✓	✓
		Gross*	×	✓	24 hours	×	✓	✓	✓	✓	✓
	Individual		×	✓	5 days	×	✓	✓	✓	✓	✓
ICE	Net Omnibus Client Segregation (ETD)	(1)	✓	×	48 hours	✓	×	✓	✓	×	✓
		(2)	✓	×	48 hours	✓	×	✓	✓	×	✓
	Gross Omnibus Client Segregation (OTC)	(1)	✓	×	48 hours	✓	×	✓	✓	×	✓
		(2)	✓	×	48 hours	✓	×	✓	✓	×	✓
	Sponsored Principal*		N/A	N/A	N/A	✓	✓	N/A	N/A	✓	✓
	Alternative Individual Segregated Account*		✓	×	48 hours	✓	×	✓	✓	×	✓

Default porting and default close-out overview

CCP	Account	What is ported?		Porting window ⁺	What is returned?		Backup members ⁺⁺		Client documentation	
		Liquidated value	Assets		Liquidated value	Assets	Single	Multiple	Own	Addendum
LCH	Net Omnibus (ETD & OTC) ⁽⁴⁾	✓	×	48 hours	✓	×	✓	×	✓	✓
	OSA Omnibus Net Segregated (OTC) ⁽⁵⁾	✓	×	48 hours	✓	×	✓	×	✓	✓
	LSOC (FCM account)	Bankruptcy judge / trustee / CFTC-driven		48 hours	Bankruptcy judge / trustee / CFTC-driven		Bankruptcy judge / trustee / CFTC-driven		✓	✓
	ISA-Individual Segregated (OTC)	✓	×	48 hours	✓	×	✓	×	✓	✓
	Full Asset Segregated*	✓	✓	48 hours	✓	✓	✓	×	✓	✓
	Full Physical Segregated*	✓	✓	48 hours	✓	✓	✓	×	✓	✓

Default porting and default close-out overview

CCP	Account	What is ported?		Porting window ⁺	What is returned?		Backup members ⁺⁺		Client documentation	
		Liquidated value	Assets		Liquidated value	Assets	Single	Multiple	Own	Addendum
NASDAQ OMX	Direct Pledge	x	✓	N/A	✓	✓*	✓	x	x	✓
	Indirect Pledge	✓	x	Not stated	✓	✓*	✓	x	x	✓
	Omnibus	✓	✓*	Not stated	✓	✓*	✓	x	✓*	✓
	Single Client	✓	✓*	Not stated	✓	✓*	✓	x	x	✓
	Individual Client Segregated (ICA)	✓	✓*	Not stated	✓	✓*	✓	x	✓*	✓

1. Title Transfer model (available to all Clearing Members)
2. Client asset protection model (only available to UK Clearing Members)
3. To be supported following revision of the CASS rules
4. Clearing Member determines set of participants in the account
5. Client determines set of participants in the account

* Account under development, details may be subject to change

* These are indicative “up to” times, not guaranteed times

** Relates to whether Client is able to default port all its positions to a single backup member only or can split its positions across multiple backup members


Default fund and default management

Default fund

- > Each CCP is required to have in place a **default fund** in order to provide the CCP with additional resources (over and above IM) in order to meet its potential obligations in the event of a **CM default**
- > The value of the default fund will be calculated by the CCP and shall be sized according to the CCP's requirements. EMIR requires the CCP to be **able to withstand, under extreme but plausible market conditions, losses from the default of the CM** to which it has the largest exposures or the aggregate of the CMs with the second/third largest exposures. CCPs can apply a more stringent methodology, e.g. "cover 2"
- > CCPs required to stress-test their models to ensure resources are adequate
- > Each CCP to establish a **minimum amount** for the default fund
- > CMs required to participate in the default fund, such participation generally to be pro rata their exposures to the CCP, subject to a minimum amount per CM
- > The default fund is pre-funded and may be subject to obligations to **replenish** and/or further assessments
- > The CCP will determine whether the contributions should be cash and/or **other assets** and any security protection provided over the contributions

Default fund

The provisions of each CCP will set out **the order in which the default fund is used** to meet losses arising from the default of a CM. In the EU, this has now been **standardised** by EMIR:

- 
- 1) defaulting CM's initial margin (plus excess)
 - 2) defaulting CM's default fund contribution
 - 3) CCP's default fund contribution
 - 4) non-defaulting CMs' default fund contributions

Some other issues to consider:

- > **limited recourse** per product line
- > **other resources** that may be available in addition to the above
- > whether the default fund is **cross product lines** or **per product line**

Default fund comparison

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
CCP contribution	£32.5m	€50m	Euro equivalent of \$10m (moving up to \$50m)	£20m	SEK 100,000,000
CM minimum contribution	€10m	€5m (General Clearing Members); €1m (Direct Clearing Members)	€15m	£10m (SwapClear)	SEK 1,000,000
Cross product fund	Per product line	Per product line (ultimately cross-collateralised); separate fund for CDS	Per product line	Per product line	Per product line
Replenishment	At end of cooling-off period	At end of capped period	At end of default period	At end of default period	Yes – at any time
Assessment	One per default up to then DF contribution	Within capped period, maximum of 2 DF contributions	One per default up to then DF contribution	One per default; no more than 3 in 6 months	Per default, up to then DF contribution
Acceptable Collateral	Eligible cash or securities	Eligible cash or securities	Cash or securities (subject to minimum cash component)	Cash	Eligible cash or securities
Contribution protection	None	None	None	None	None

Default management

- > On an event of default of a CM, CCPs have **broad rights** in relation to the portfolio of that CM. These include: suspend registration of transactions, settle or close-out positions, force allocate or invoice back positions, transfer positions to another CM, realise collateral, take any other action that might be required
- > For CMs who undertake client clearing, CCPs will initiate, where possible, **porting of positions and collateral** or, if not, **return of net amount to the client**
- > CCPs can also invoke a separate procedure, generally known as a default management process, which provides more certainty around the process of determining the losses of the CCP:
 - > **risk neutralisation** of the defaulting CM's portfolio (including any non-porting Client trades)
 - > **porting** of defaulting CM's client positions if possible
 - > **auction process** whereby non-defaulting CMs "required" to bid for portfolios
 - > if auction process not successful, **other loss mutualisation processes** may be available (e.g. VM haircutting; voluntary payments); typically invoicing back disapplied

Default management comparison

	CME	EUREX CLEARING	ICE	LCH	NASDAQ OMX
Rights to Close out	Yes	Yes	Yes	Yes	Yes
Default Management Process	Yes	Yes	Yes	Yes	Not as separate procedure
Required Bidding / incentivisation	Yes Staggered use of default fund contributions	Yes	Yes Staggered use of default fund contributions	No Auction incentive pool mechanism	Yes Available for certain products
Forced Allocation?	No	No	No	No	No
Invoicing back	No unless emergency	No	No	Not for SwapClear	No
Other resources	VM haircutting Voluntary payments	Limited termination rights Economic loss allocation to CMs Voluntary payments	VM haircutting Voluntary payments	VM haircutting Voluntary payments	Loss sharing amongst CMs

Regulatory capital considerations for client clearing

Legislative framework and scope

- > **Basel III** and **CRD IV (CRR)**
- > Rules apply broadly to derivatives (OTC and LD), repos, S/L etc; not to cash transactions (Article 301 CRR)
- > CMs' and clients' exposures
- > Counterparty credit risk only – **not market risk**
- > CVA risk charge does not apply to exposures to CCPs (Article 382(3) CRR)
- > Rules (broadly) only apply to qualifying CCPs; normal bilateral rules for non-qualifying CCPs (Article 301(3))
- > **Drafting unclear** – but still directly applicable in UK

CM's trade exposures and default exposure to CCP

Two possible regimes for a qualifying CCP (Article 301(2) CRR)

- > Articles 306 to 308 CRR (Method 1); or
- > Article 310 CRR (Method 2)

Trade exposures of CM – CM dealing on house account (method 1)

- > 2% charge on trade exposures (Article 306 CRR)
 - > Trade exposures calculated in accordance with normal method for CCR (e.g. IMM)
 - > So “exposure” generally = MtM plus PFE
 - > MtM generally collateralised by VM
- > So generally 2% on PFE. N.B. driven off nominal amount of derivatives
- > Plus exposure for margin (discussed later)

Trade exposures of CM – CM dealing for client (method 1)

- > **CM-client leg:**
 - > To be treated like uncleared (Article 303(2) and Article 304(1) CRR (duplicative and contradictory));
 - > CM still at risk if client does not pay
 - > Subject to adjustments to e.g. margin scalars period (Articles 304(3) and (4) CRR)
- > **CM-CCP leg:**
 - > **2%** (Article 306(1)(a) CRR, as above) save that
 - > where “financial intermediary” (= (?) principal) no charge if: limited recourse (Article 306(1)(c) CRR) so no double charges
- > **Agency**
 - > **2%** if CM guarantees CCP performance (i.e. never?) – only in Basel III not CRR
- > No exposure for contingent portability obligations of BUCM (Article 303(5) CRR)

Exposure of CM for margin (method 1)

- > Split of treatment of margin v. trades **less clear** in CRR than Basel III
- > VM normally netted off, so (presumably) exposure for return of IM
- > **CM on own account**
 - > if “bankruptcy remote” (presumably = by way of security, so non-cash) at CCP and custodian – no capital required
 - > if not “bankruptcy remote” and risk is on CCP —→ **2%** RW
 - > if not “bankruptcy remote” and risk is on custodian, then risk weighting for custodian (“custodian” includes bank for cash?)
 - > N.B. wording even more questionably drafted here in Basel III, and folded into trade exposures in CRR

Summary of CM (before default fund) (method 1)

- > **House Account** (CCP leg only, by definition)
 - > 2% on PFE
 - > 2% on cash (and other outright transfer) IM (assuming no credit risk on custodian)
- > **Client Account**
 - > CCP leg
 - > No charge assuming limited recourse
 - > Client leg
 - > Normal uncleared rules

Default fund (method 1)

- > Articles 307 and 308 CRR (see also amendments in Article 520 CRR) – highly formulaic
- > Appears unsettled – see Article 456(1)(h): authority “to take account of developments or amendments of the international standards for exposure to a central counterparty”
- > Broadly:
 - > Shortfall of
 1. Hypothetical capital of CCP as if uncleared bilateral trades using CEM method (i.e. collateral taken into account) from
 2. Aggregate of (i) CCPs own loss bearing capital allocated to that default fund; and (ii) all CMs’ pre-funded default fund contributions
 - > RW at 120% on shortfall: excess (if any) subject to a decreasing scalar 1.6%-0.16% allocated to CMs pro rata to their pre-funded default fund contributions
- > Lacuna for unfunded contributions?
 - > Funded only v. CRR
 - > To be changed under planned new Basel rules?

Trade exposures and default fund (method 2)

Article 310 CRR

- > 2% RW of trade/margin exposure to CCP as above and effective deduction of pre-funded contribution to default fund RW (i.e. RW of 1250%); or
- > (if lower) 20% RW of trade exposure to CCP
- > Expected to be more expensive, if operationally simpler

Trade exposures – client

- > Possible to calculate **as if uncleared** (Article 303(3) and Article 305(1) CRR (duplicative))
- > RW of **2%** (Article 303(4) and Article 305(2) CRR (duplicative and contradictory)) if (i) portable and (ii) bankruptcy remote
 - > **Portability**: Article 303(4) “ensured”; Article 305(2)(b) “facilitated” but “shall be transferred” unless client requests to close out. In Basel III “highly likely”
 - > Note portability must be “within” the applicable margin period of risk (Articles 304(3) and 305(2)(b) CRR). Very difficult to be sure in practice?
 - > Positions and assets **distinguished and segregated**, in EMIR compliant manner at CM and CCP level, from assets/positions of CM and other clients
 - > “Bankruptcy remote” (with opinion) despite default or insolvency of
 - > that CM
 - > CM’s other clients
 - > both the above (Article 305(2)(c))
 - > “**Bankruptcy remoteness**” in effect requires direct recourse to CCP (via security, agency or statute)

Trade exposures – client

- > RW of 4% (Article 305(3) CRR)
 - > conditions as above, except
 - > client not protected if both CM and other clients insolvent

Trade exposures – client

> Query where break comes? Possibly as follows:

- > Individual Segregation by Asset
- > Individual Segregation by Value/LSOC/“modern” gross omnibus (socialising of asset risk, but not position risk)
- > Traditional gross omnibus – 4%?
- > Net omnibus – 4%? Normal RWA?

} 2%?

Margin exposures – client

- > As for CMs, presumably IM
- > If “bankruptcy remote” from the CCP, the CM and CM’s other clients, then no capital requirement. Presumably where:
 - > CM posts by way of security (non-cash) and
 - > client has recourse to CM’s equity of redemption
- > If held at CCP and not bankruptcy remote, then 2% or 4% (split as above)
 - > CM posts outright (cash or non-cash); and
 - > client has recourse to CM’s debt claim against CCP
- > Otherwise, (presumably) normal RW of CM

Summary for client

- > 2%/4%/CM's RW (depending on clearing model) on
 - > PFE and
 - > Cash (and other outright transfer at CM level) IM (assuming no credit risk on custodian)
- > Assumes segregation and portability requirement satisfied
- > May, of course, be other exposures to CM if e.g. pre-funded
- > Default fund not relevant

Indirect clearing

- > Rules above must be met “**at every level of the chain**” (Article 305(4) CRR)

Other relevant provisions of CRD IV

- > **Leverage Ratio**

- > Uncollateralised? Complex, but presumably VM counted
- > But PFE, on its own, substantial?

- > **Large Exposures**

- > Carve out at for trade exposures and default fund contributions to CCPs (Article 400(j) CRR)

Panel discussion

Panelists

Lee Betsill

CME



Lee Betsill became Managing Director of EDX in 2006, having previously been Head of Operations there. He joined the London Stock Exchange in 1995 having been head of clearing at OMLX for seven years. His first job was on the trading floor of the CME in Chicago.

Lee holds a degree in Finance from the University of Wyoming and a Masters in International Management from the American Graduate School of International Management.

Philip Simons

Eurex Clearing



Philip Simons has 30 years' experience in the financial industry where he started life as a swaps trader before moving in to the clearing world, initially heading up the clearing business at UBS followed by Cargill.

Philip later moved into the custody and collateral management space at J.P. Morgan before recently joining Eurex Clearing where he is head of OTC Development.

Mark Woodward

ICE



Mark Woodward heads ICE Clear Europe's corporate development team and is responsible for building ICE Clear Europe's OTC and exchange-traded derivatives clearing services. Mark was involved in the creation of, and transition of business to, ICE Clear Europe in 2008, and subsequently in the development of ICE Clear's OTC CDS clearing offering.

Mark joined ICE Futures Europe in 2002 and has had a number of roles including international regulatory policy and working with the European Climate Exchange in launching the world's leading derivatives products for the trading of emissions allowances. He previously worked at the Financial Services Authority and BP plc.

Philip Whitehurst

LCH



Philip Whitehurst is EMEA Head of Product Management at SwapClear, the market-leading swap clearing service operated by LCH.Clearnet Ltd.

Based in London, Philip has over 20 years' experience in the OTC Derivatives markets in a range of functions and firms. He began his career trading GBP and DEM interest rate swaps and options, and then spent more than 10 years in FICC Structuring for major international banks, arranging fixed income derivatives solutions for institutional and retail clients located in AsiaPac and EMEA. Philip joined SwapClear in 2009, and has been heavily involved in the design and development of initiatives including SwapClear's client clearing models in the US and in Europe.

He is a graduate of St Catherine's College, Oxford.

Göran Bolin

NASDAQ OMX



Göran Bolin, Vice President Business Development at NASDAQ OMX Clearing, has extensive clearing house experience. During the last 10 years he has worked actively with the ambition to create one single harmonized multi asset derivatives clearing house for the Nordic region.

Göran was previously the head of exchange and clearing operations at NASDAQ OMX.

Questions



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