

**Meeting Between Staff of Federal Reserve Board and
Representatives of the ISDA
February 11, 2012**

Participants: Sean Campbell, Anna Harrington, Jeremy Newell, Chris Paridon, and Jeff Stehm (Federal Reserve Board)

Thomas Benison (JP Morgan); Michael Clarke (Goldman Sachs); Athanassios Diplas (Deutsche Bank); Oliver Frankel (Goldman Sachs); Mary Johannes (ISDA); Stephen O'Connor (Morgan Stanley); and Andrew Williams (Morgan Stanley)

Summary: Staff of the Federal Reserve Board met with representatives of ISDA to discuss developments in the ISDA effort to create a standardized Collateral Support Annex (SCSA) that would restrict eligible collateral for variation margin purposes to major currencies and institute a uniform methodology for calculating interest payments on received variation margin collateral. ISDA representatives wanted to bring Board staff up to date on recent developments with this initiative and to discuss the extent to which the proposed treatment of eligible cash collateral in the ISDA SCSA would interact with the Prudential Regulators' proposed rules on Capital and Margin Requirements for Uncleared Swaps.

In addition, ISDA discussed the CFTC's final rule on the protection of customer collateral for cleared swaps and its potential implications for margin calls and intraday liquidity needs of swap dealers. ISDA indicated that the final rule could under some circumstances result in substantial intraday margin calls from CCP's.

2 February, 2012

Secretariat
Committee on Payment and Settlement Systems
Bank for International Settlements
Sent by email to: cpss@bis.org

Secretariat
Technical Committee
International Organization of Securities Commissions
Sent by email to: fmi@iosco.org

The Systemic Risk of Intraday Margin Calls for Cleared Over-the-Counter Derivatives

Dear Secretariats

We wish to alert you to a matter which is, in our view, sufficiently important to reducing risk and fostering financial stability to raise at this late stage¹. In this letter, we outline our concern and propose potential solutions that we are exploring to address this matter, while acknowledging that, as ever, there is no panacea for risk and that each of our proposed solutions contains its own difficulties and risks. Nevertheless, the industry feels strongly that CPSS-IOSCO ought to address this issue in its Principles for Financial Market Infrastructures (“PFMI”). In particular, CPSS-IOSCO PFMI 3.4.8² and aspects of PFMI 6³ require careful amendment.

As you know, the G20 seeks to impose mandatory central clearing for standard Over-the-Counter (“OTC”) derivatives. The widely-used margin system for central clearing contains three components: initial margin (“IM”), variation margin (“VM”) and intraday margin (“IDM”). In relation to VM and IDM, Clearing Members (“CMs”) pre-fund their clients’

¹ We refer to the work of the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions (collectively, “CPSS-IOSCO”) on Principles for financial market infrastructures, specifically the CPSS-IOSCO consultative report titled ‘Principles for financial market infrastructures’ of March 2011 and work following the consultation. As you know, ISDA’s consultation response of 22 July 2011 focused on the proposals’ application to OTC derivatives markets, and in particular their suitability as risk management standards for OTC derivatives central counterparties (“CCPs”).

² CPSS-IOSCO consultative report ‘Principles for financial market infrastructures’ page 34, PFMI 3.4.8: “In addition, a CCP should have the authority and operational capacity to make *ad hoc* intraday variation margin calls from participants with positions that have lost significant value during the trading day.” [emphasis added]

³ CPSS-IOSCO consultative report ‘Principles for financial market infrastructures’ page 40, PFMI 6 Key consideration 4 “... A CCP should have the authority and operational capacity to make intraday calls for initial and variation margin from participants with positions that have lost significant value.”

obligations. In relation to IDM, in general CCPs do not provide physical payment for accounts with net mark-to-market gains⁴. This produces a liquidity drain at the CM, which is significantly exacerbated by the fact that, unlike listed derivatives, clearable OTC derivatives are fungible products that can be cleared at more than one CCP and the new and envisioned national regulatory frameworks allow clients of CMs to choose where to clear. This can be expected to lead to certain preferences, for example:

- Customer preferences may lead one client segment to clear their large receive fixed positions on interest rate swaps (“IRS”) at one CCP, while a second customer segment may prefer to clear their large pay fixed at a second CCP.
- For credit default swaps (“CDS”), the different CCPs offer significantly different margin methodologies for buyers and receivers of protection. With respect to the size of margin requirements in isolation, sellers of protection would be likely to prefer one CCP and buyers another.

This fragmentation of the clearing market is likely to result in unbalanced netting sets in CMs’ house and client accounts. In this context, the use of IDM calls for OTC derivatives cleared at multiple CCPs creates systemic risk as CMs must make payment of net mark-to-market losses on directional exposures to CCPs without the benefit of payment from CCPs for accounts with net mark-to-market gains. In the absence of refined standards for IDM practice, CMs are exposed to a serious liquidity risk as they risk-intermediate CCPs in distressed market conditions.

One preliminary estimate suggests that such IDM calls may require USD\$20B in overnight funding from each CM or USD\$300B - \$500B in aggregate⁵. This preliminary estimate gives a sense of the magnitude of the issue. As noted, CMs cannot effectively control this risk, since it originates from fragmentation of the clearing market and client choice of clearing venue.

To commence discussion of how to address this systemic risk, we are examining the following, which are provided in no particular order, as potential solutions. All would mitigate the risk, to varying degrees.

- CPSS-IOSCO could explicitly recommend the abolition of CCP IDM calls for cleared OTC derivatives. If it could be demonstrated that CCPs required more margin than they would obtain if IDM calls were abolished, then a practical solution would be to increase the holding period in the IM calculation (to cover 6 days of market risk) instead of retaining IDM calls.
- CPSS-IOSCO could recommend CCP interoperability for CCPs clearing the same OTC derivative product (“iCCPs”). This could address the problem if we suppose that iCCPs have a synchronised margining system with each other, including in relation to IDM calls, and that this synchronised margining system would enable the netting of offsetting CM trade exposures to each iCCP. In such circumstances, should an IDM call be necessary, a single net payment from CMs would be sufficient risk mitigation

⁴ At this point, we understand the Chicago Mercantile Exchange does pay out (80% of) gains to members on an IDM.

⁵ The argument for this estimate is presented in Annex 1. Note, significantly more capital would be required if client CCP accounts were fully segregated.

for the iCCPs. (Note, the single payment could be made from the iCCPs to the CM where that CM has accounts with net mark-to-market gains.)

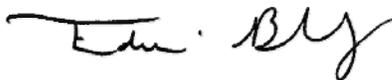
We acknowledge that formidable hurdles must be overcome before any interoperability can be implemented safely between CCPs in respect of OTC derivatives clearing due to, among other things, the potential for systemic risk caused by the CCP, which is the weakest link in the chain. However, if interoperability were achieved, it would remove dealers from intermediating CCPs and the associated systemic risk. As a result, interoperability ought to remain on the agenda.

- CPSS-IOSCO could recommend that:
 - CCP IDM calls be “two-way”, meaning that at each CCP, IDM calls would pay accounts with net mark-to-market gains at the same time as calling on accounts with net mark-to-market losses; and
 - CCPs clearing the same OTC derivative product would collaborate with each other in relation to IDM calls to offset directional exposures. Each CCP would monitor and assess the ability of CMs to meet any potential IDM calls, share this analysis with the other CCPs and the relevant prudential regulator(s), and determine to make any IDM call in a coordinated and orderly fashion. While this proposal (in conjunction with the proposal in the sub-bullet immediately above) would not eliminate intraday funding risks, it would (largely) remove the overnight funding drain from CMs. On the other hand, we recognise this proposal contains the potential for significant operational risk and coordination problems.
 - CCP’s adopt a more advanced CCP collaborative structure that could entail a single pool margining scheme managed by a custodian. A suitable custodian might be agreed for this, which might be one of the CCPs themselves, a custodian bank or perhaps the monetary authority responsible for each currency for cash margin.

We would welcome an opportunity to discuss our concern and proposed solutions with you to obtain your views prior to the promulgation of the PFMI. Please contact the undersigned to arrange a discussion or should you require further information.

We look forward to hearing from you.

Yours sincerely,



Edwin Budding
Risk and Financial Regulation
International Swaps and Derivatives Association, Inc.

Annex 1

Preliminary industry estimate

The estimate below is derived from a comparison of two scenarios, which are based on realistic assumptions. The aim is to provide a sense of the quantitative impact of IDM calls on CMs for clearable OTC derivatives.

Assumption 1: In a worst–case circumstance, IDM calls are around half⁶ of IM requirements. In general, CCPs do not provide actual physical payment for accounts with net mark-to-market gains.

Assumption 2: CM IM requirements for each class of OTC derivatives to be USD\$2B⁷.

Scenario 1: There is just one CCP for each cleared OTC derivative product class⁸.

Based on the above, we can expect on days of stress a USD\$1B call for the IRS book for a CM's house account. We can expect a similar figure for the CDS book.

For the CM's client clearing business, if the client account is an omnibus account (for example as per listed derivatives) then the client account is called for its *net* mark-to-market loss. In this case, we can expect a call for the client account in a size similar to that made for the house account for the IRS book, i.e. another USD\$1B. Again, we can expect a similar figure for the CDS book.

The fact that dealers pre-fund these IDM calls on the client account(s), leads to an overnight funding drain from the CM⁹. If clients have fully segregated accounts, then the CCP would call each individual client account with mark-to-market losses. An effect of the inability to net offsetting clients' transactions would be for the dealer to receive an IDM call that is a *multiple* of the IDM call if the client positions were in an omnibus account.

⁶ For IRS, the ratio of worst case 1-day to 5-day moves—the latter being the basis for IM calculations—ranges from 50% to 80% depending on swap tenor.

⁷ The \$2B is typical of a large CM.

⁸ For the purposes of this illustration, by “class” we refer, broadly, to a suite of OTC derivative types: IRS being one class, CDS being another.

⁹ Further, unlike the listed derivatives market, we do not expect cleared OTC derivatives clients to maintain significant excess funds in their client account(s) that might reduce the impact of any such a funding drain. This is because:

- CCPs collect gross rather than net IM from CMs in respect of OTC derivatives cleared for customers, which represents a change from the listed derivatives framework and there is no long option value margining.
- OTC derivatives clients are typically hedgers and pull out their profits from their client accounts to pay losses on the assets/liabilities they are hedging.
- Many OTC derivatives clients are also fund managers and withdraw excess funds to be prudent, either to invest or to return funds to the end investor.

Given the above, the potential overnight drain in Scenario 1 comes to USD\$4B. Again, this figure may be much larger, perhaps double, if CCPs call margin for each client with mark-to-market losses (i.e., a gross client call), rather than a net call from a client omnibus account.

Scenario 2: There are multiple CCPs for each cleared OTC derivative product class.

Scenario 2 reflects the conditions under the G20 proposals and PFMI¹⁰ and recognises the competitive incentives for dealers to become members of as many CCPs as possible while there is client demand for choice.

Accordingly, with client choice of CCP, each CCP-cleared portion of the dealer OTC derivative book will be ‘split’ at different CCPs and very directional. The severe funding requirements and costs consequences of this are:

- A dealer’s directional IRS book may result in IM requirements on the House Account increasing five (to ten) fold, at each CCP, i.e., USD\$10B at each CCP. If we employ Assumption 1 above, this would lead to a potential USD\$5B IDM call for the House Account from one of the CCPs. This liability would only be matched the next morning with a payment from the other CCP.
- We estimate a similar figure for cleared OTC CDS, arriving at a total USD\$10B one way call for the House Account (where the dealer is trading IRS and CDS under Assumption 2 above).
- At the same time, CCPs will call approximately the same amount for Client Account at each CCP assuming an omnibus client account is used.

Given the above, the potential overnight drain in Scenario 2 may be in excess of USD\$20B. Again, this figure may be much larger, perhaps double, if CCPs call margin for each client with mark-to-market losses (i.e., a gross client call), rather than a net call from a client omnibus account.

Finally, if one major dealer is 5% of the total of cleared OTC derivative risk, then the total overnight funding risk across the industry may amount to 20 times USD\$20B, namely USD\$400B. On just the day when dealers are stressed and the market moves to reflect this, IDM funding calls will remove USD\$300B – USD\$500B of liquidity from dealers.

This is a dramatic contrast to Scenario 1 where there is only one CCP per product class and very much less IDM would be called (assuming that the dealer managed a market risk balanced House Account, the dealer’s clients were relatively balanced in aggregate and the CCP called for a net intraday call across an omnibus client account).

Further funding requirement, cost consequences and risks

In addition to the severe funding requirements described above in relation to Scenario 2, due to the directional exposures to multiple CCPs, default contributions and other member obligations (for example, unfunded assessment guarantees) could correspondingly increase

¹⁰ As the PFMI were set out in the March 2011 consultative report

five-fold at each CCP¹¹. Further, CCP capital charges and balance sheet usage will correspondingly increase, to a level that may well disfavour clearing. In addition, dealer exposure to each CCP may increase beyond internal counterparty risk tolerances.

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¹¹ Consequently, it is important that regulators and CCPs are able to discover and manage capital “call risk” as noted in our July 2011 response to the CPSS-IOSCO consultative report. To recap, “call risk” is the risk arising from the possibility that an entity is a CM at multiple CCPs. There is a risk of inadequacy in a CM’s capital cover for all of the CCPs at which it is a member in light of the potential impact of multiple assessments from different CCPs on the same CM or affiliate group in a short time-frame. Small CMs are more leveraged entities in the sense that the sum of their potential CCP assessment liabilities will be a larger number relative to their capital base. As was also noted in our July 2011 response, it is not only clearing that causes capital risk for CMs. This is particularly so for non-bank CMs not subject to Basel rules which require regulatory capital buffers. Left unmanaged, call risk poses a serious threat to CCP risk management.

ISDA[®]

Safe,
Efficient
Markets

Discussion with Federal Reserve Board

February 2, 2012
Washington, DC

Introduction to the Standard Credit Support Annex

Michael Clarke
Managing Director
Goldman, Sachs & Co.

Andrew Williams
Managing Director
Morgan Stanley

Important Notes

The ISDA Standard CSA is a work in progress and what follows is subject to change, possibly substantial, without notice.

The Standard CSA is intended to address certain specific problems observed in the market. It will not be suitable or appropriate for every market participant to adopt - it is not the "Universal CSA" and its use will not be a market standard practice. The SCSA is entirely voluntary to adopt for those firms who see the economic drivers to do so. There is no compulsion to adopt it and many firms may not do so. This is perfectly okay - the existing ISDA CSA remains available for use in English law, New York law and Japanese law flavors.

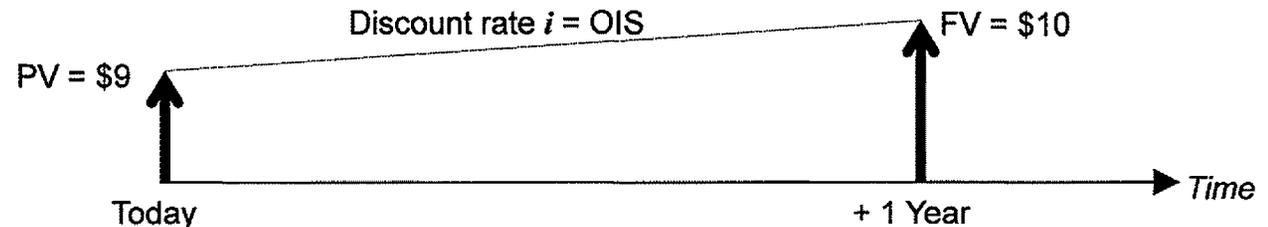
Embedded funding mismatch

- The CSA takes the mark-to-market exposure of many transactions in different currencies, nets them, and requires collateral to cover that amount (ignoring Thresholds, MTAs and IA).
- In most cases, the collateral is delivered in a single currency, often USD or EUR.
- Interest accrues at the overnight index rate for the relevant currency of the collateral actually delivered, e.g. Fed Funds or EONIA.
- This creates a mismatch in funding currency and interest accrual between the underlying derivative cashflows and the collateral.

Aligning collateral and swap cashflows

- Consider a swap with a single cashflow of \$10 in one year...

$$PV = \frac{FV}{(1+i)^n}$$



- Under the SCSA collateral is required to cover the mark-to-market value of the swap, so \$9 of collateral is delivered today.
- Under the SCSA collateral must be cash in the currency of the swap, and cash collateral earns interest at the OIS rate.
- Therefore \$9 of collateral delivered today earns interest of \$1 over the next year. When it is returned at the end of the swap, the collateral plus interest will precisely cover the \$10 cashflow due - with no currency risk and no basis risk.
- If properly aligned, the collateral funds the future swap cashflow.

The economics of mis-alignment

1. Accruals by Currency Silo

	Undisputed Amount (in currency)	Spot FX Rate	Net Undisputed Amount (in Transport Currency)	Collateral Actually Delivered under CSA	Implied Funding Rate Index	Implied Funding Rate	Implied Annual Funding Cost	USD Equivalent for Comparison
USD	8,000,000	1.00000	8,000,000	n/a	Fed Funds H-15	0.0800%	USD 6,400	USD 6,400
EUR	100,000,000	1.44102	144,102,400	n/a	EONIA	1.0710%	EUR 1,071,000	USD 1,543,337
JPY	(5,000,000)	0.01000	(50,000)	n/a	Mutan Call	0.5601%	JPY (28,005)	USD (280)
GBP	(6,000,000)	1.61000	(9,660,000)	n/a	SONIA	0.0950%	GBP (5,700)	USD (9,177)
CHF	(2,000,000)	1.16000	(2,320,000)	n/a	TOIS	0.0210%	CHF (420)	USD (487)
			Total: 140,072,400				Total: USD 1,549,737	



2. Accrual for a Single Transport Currency If Held Unconverted

	Net Undisputed Amount (in Transport Currency)	Collateral Actually Delivered under CSA	Actual Funding Rate Index if Held in Transport Currency	Actual Funding Rate	Actual Annual Funding Cost	USD Equivalent for Comparison
Portfolio	140,072,400	140,072,400	Fed Funds H-15	0.08%	USD 112,058	USD 112,058



Embedded optionality

- The CSA permits:
 - Delivering Party choice of collateral asset from the list of Eligible Collateral
 - Delivering Party ability to substitute collateral
 - Receiving Party consent for substitutions under English Law CSAs (to reduce re-characterization risk)
- These are options and have economic value.
 - How can we project their future value?
 - How can they be priced?
 - Extreme pricing complexity
 - Impossible to hedge
 - “The CSA is the most exotic of exotic derivatives”

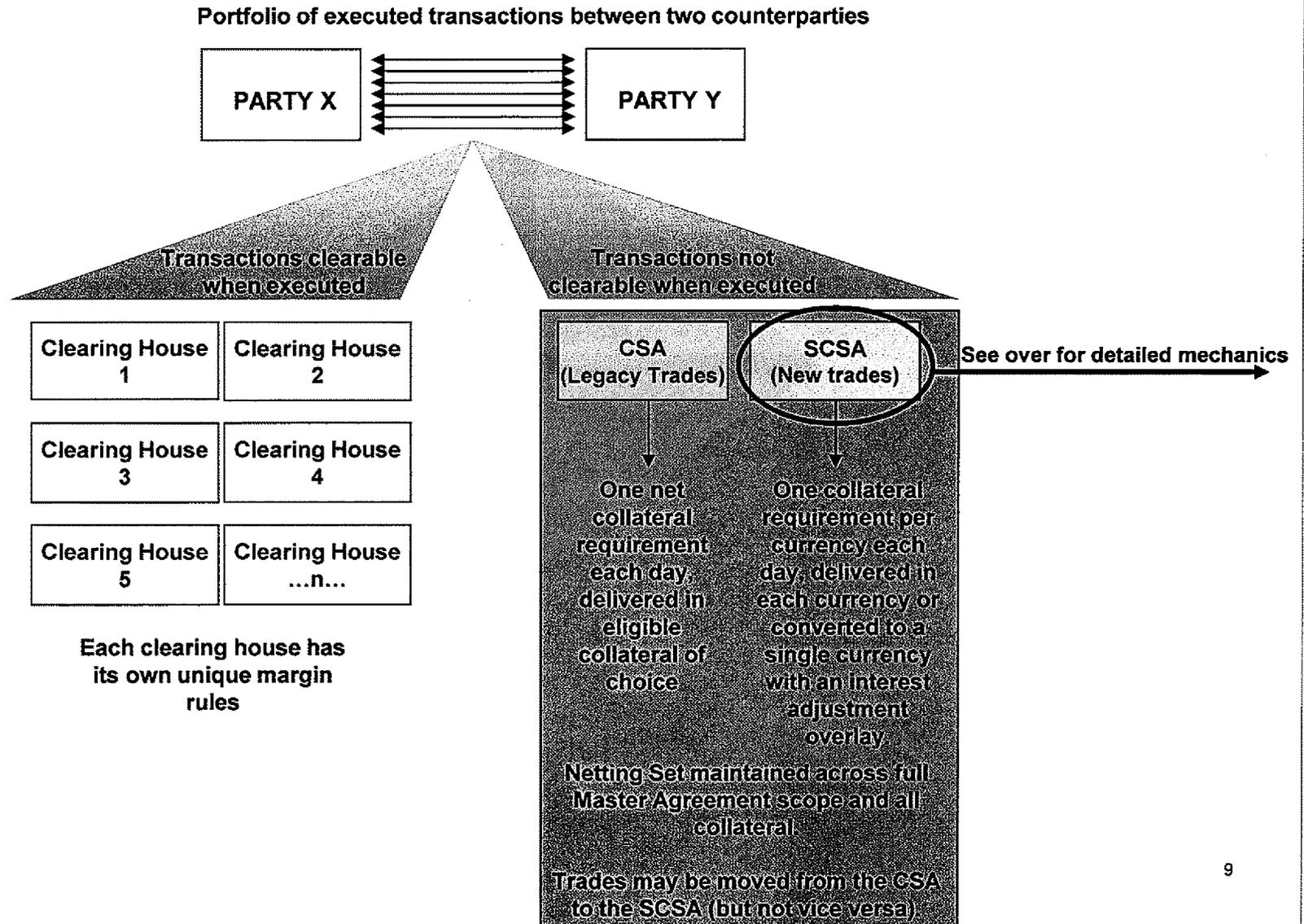
Adverse impact on risk transfer

- There is an active market in derivative novation and assignment. In addition, regulators and market participants are encouraging the transfer of bilateral risk to CCPs where possible.
- The LIBOR-OIS discounting issue discussed earlier makes these risk transfers more difficult, because of the differences in choice of underlying curve.
- The collateral-related effects render these risk transfers even more difficult, since CSA terms are not consistent across the market, and the two parties to a given CSA may factor the collateral terms into pricing differently (if at all).

What is the Standard CSA ?

- The SCSA is a work in progress.
- Superficially it looks similar to the 1994/1995 ISDA CSA.
- This is to preserve current legal enforceability analysis wherever possible.
- But major changes beneath the surface:
 - Exposure and collateral computed by currency “silo”.
 - Eligible collateral is G5 cash only.
 - No thresholds, *de minimis* standardized MTA (possibly zero).
- No change to IA - still negotiated by counterparties and may be covered by securities collateral (at least until legislated otherwise!). This is possible because IA is collateral in excess of any mark-to-market exposure and therefore is not funding the underlying derivative cashflows.

How the SCSA works: Context



How the SCSA works: Mechanics



PARTY X PERSPECTIVE:

Designated Collateral Currency (DCC) Silos

	USD	EUR	GBP	CHF	JPY
INCLUDED TRANSACTIONS	USD Transactions <small>(See next page for cross-currency transactions and non-G5 single currency transactions)</small>	EUR Transactions	GBP Transactions	CHF Transactions	JPY Transactions
EXPOSURE	$\sum MTM_{USD}$	$\sum MTM_{EUR}$	$\sum MTM_{GBP}$	$\sum MTM_{CHF}$	$\sum MTM_{JPY}$
COLLATERAL	$\sum CASH_{USD}$	$\sum CASH_{EUR}$	$\sum CASH_{GBP}$	$\sum CASH_{CHF}$	$\sum CASH_{JPY}$
REQUIRED SETTLEMENT Threshold = 0 MTA = 0	$\sum CASH_{USD} - \sum MTM_{USD}$	$\sum CASH_{EUR} - \sum MTM_{EUR}$	$\sum CASH_{GBP} - \sum MTM_{GBP}$	$\sum CASH_{CHF} - \sum MTM_{CHF}$	$\sum CASH_{JPY} - \sum MTM_{JPY}$

Pro Forma Current CSA for Comparison

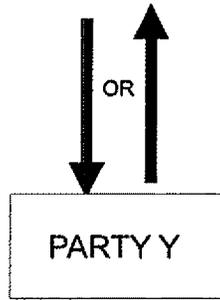
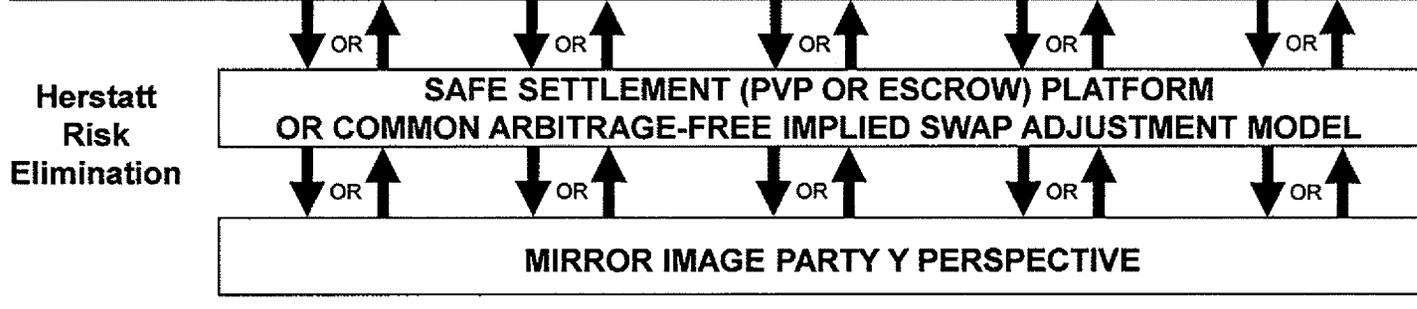
All Transactions

$$\sum MTM_{ALL}$$

$$\sum CASH_{ALL} + \sum SECURITIES_{ALL}$$

$$\sum CASH_{ALL} + \sum SECURITIES_{ALL} - \sum MTM_{ALL}$$

THRESHOLD

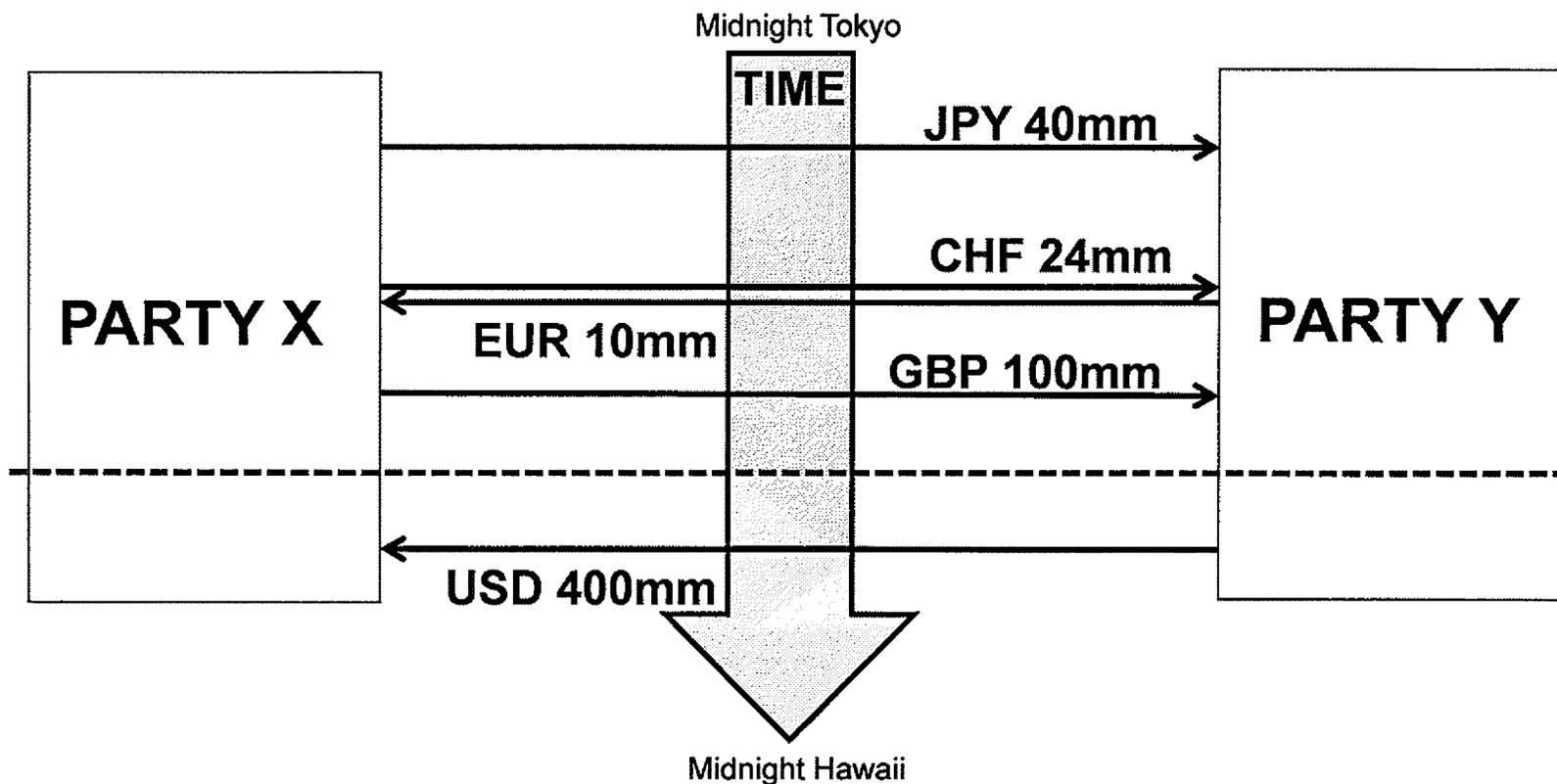


The advantages of the SCSA

- Removes collateral “switch options”
- Restricts variation margin to cash only, so that collateral interest accruals will approximate the funding cost of the underlying cashflows.
 - Further limits this to cash for which a liquid OIS market exists.
 - Will be extensible as other OIS markets develop liquidity, promoting the growth of liquid OIS markets.
- Simplifies calculations by standardizing terms.
- Eliminates structural CSA differences, thus:
 - Trade valuation more consistent and transparent.
 - Making novation, assignment and risk transfer to CCPs easier.
 - Reducing one cause of margin disputes.

The problem with the SCSA

- Herstatt Risk - cross-currency settlement risk

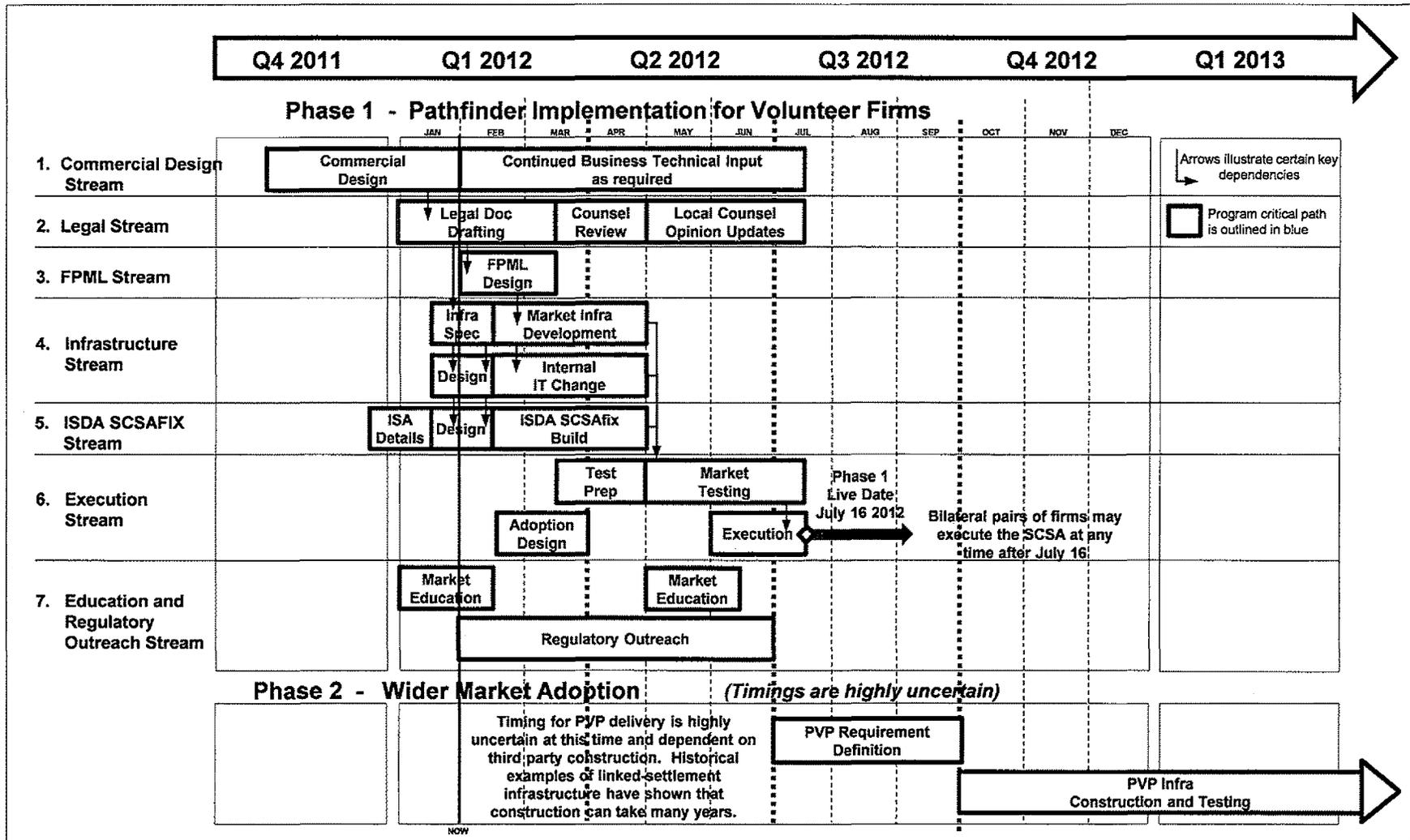


Herstatt Risk Elimination

- Three basic approaches:
 - Accept the risk
 - Eliminate the risk via linked settlement
 - Eliminate the risk via netted settlement

SCSA program plan

As of January 31, 2012 - subject to change



Follow up...

- The SCSA is a complex topic - ISDA would be delighted to follow up in more detail on any specific aspects of this important program.
- ISDA symposia on the SCSA are also being run in London, New York, Tokyo, Hong Kong and Singapore in the first part of 2012, with more dates to be added as demand dictates.