

Item	Description	Remarks
<p>Compression</p> <p>(2) Trades to be terminated/created through Blended Rates Compression</p>	<p>economic terms other than fixed rates are identical to the subject trades in its house or Customer account, Blended Rates Compression will be executed.</p> <ul style="list-style-type: none"> · Upon completion of Blended Rates Compression, the subject cleared trades are terminated prior to the maturity, while two new cleared trades (fixed vs. floating) with specific economic conditions identical to the subject cleared trades including floating rate and total cashflow will be created. · The maximum fixed rate and the minimum fixed rate among the trades subject to the Compression will be set as fixed interest rates on the relevant new cleared trades. 	<ul style="list-style-type: none"> · With regard to the compression related to Clearing Customers, Clearing Broker should apply to JSCC based on Clearing Customer's request. · Checking at JSCC prior to conducting Blended Rates Compression will be conducted after 16:00 on each business day. · See Annex 1 about detailed economic conditions, etc. to be checked for Blended Rates Compression. · All the currencies can be subject to Blended Rates Compression. · Replace the maximum fixed rate with the Par rate if it is smaller than the latest Par rate for the residual period, while replacing the minimum fixed rate with the Par rate if it is larger than the latest Par rate for the residual period. · See Annex 2 for practical examples of trades to be terminated / created through Blended Rates Compression.

Item	Description	Remarks
<p>Initiated Compression</p> <p>4. Fees</p>	<ul style="list-style-type: none"> • Fixed rate on new cleared trades (fixed vs. floating) and spreads for basis swaps should be in the range predetermined by JSCC for each residual period. • The Compression Fee shall be 2,400 yen per Cleared Trade terminated by Coupon Blending or Member Initiated Compression. 	<ul style="list-style-type: none"> • The range of fixed rates for new cleared trades and spreads for basis swaps will be reviewed on a quarterly basis. • Actual range will be determined in light of market condition, etc. before the launch of Member Initiated Compression. • With regard to Member Initiated Compression, JPY 5 million shall be Minimum Fee per Participant per Cycle. • For any of cleared trades generated by the Compression at left, normal clearing fee rate shall be applied. • For a Shareholder Clearing Participant and its Affiliate, in case of either of the Compression at left, Annual Compression Fee Cap shall be applied.
<p>II. Extension of Clearing Hours</p> <p>1. Purpose</p> <p>2. Extended Clearing Hours</p>	<ul style="list-style-type: none"> • To realize a prompt clearing of transactions in London Market hours, the clearing hours will be extended. • A new clearing window starting from 17:30 to 19:00 will be set up for new trades subject to Clearing per Trade. 	<ul style="list-style-type: none"> • When clearing applications of backload transactions are submitted from 17:30 to 19:00, those should be cleared in the morning of the next business day as currently processed.
<p>III. Initial Margin, etc.</p> <p>1. Purpose</p>	<ul style="list-style-type: none"> • To deal with various issues expected to arise in respect of scenarios used for Initial Margin (IM) requirement calculation in the case of 	<ul style="list-style-type: none"> • In the current scenario generation method based on volatility, there are issues that calculation may be executed

Item	Description	Remarks
2. Initial Margin Requirement	<p>further decline of interest rate level, the scenario generation method will be revised.</p> <ul style="list-style-type: none"> Interest rate scenario generation method used for IM requirement calculation will be changed from the relative return based method to the absolute return based method. In order to prevent considerable changes in the cover ratio of IM requirement along with the revision of the scenario generation method, the number of stress event scenarios used for IM requirement calculation will be changed to 3. Also daily fluctuated Correlation Coefficient which is calculation basis for liquidity charges will be changed to the absolute return based method. 	<p>in the opposite direction of actual raise/decline of interest rate level under negative deposit interest conditions.</p> <ul style="list-style-type: none"> IM requirement calculation method will be expected shortfall method (no change). Number of stress event scenarios and stress event scenario covered period will be determined by the implementation timing of revised methodology in light of estimation results, etc., related to cover ratio
3. Volatility Adjustment	<ul style="list-style-type: none"> In association with the revision of scenario generation method, in order to reflect current market volatility level more accurately, volatility adjustment formula will be changed as follows: $r_t^* = r_t \left(\frac{\sigma_t}{\sigma_N} \right)$ <p>r_t^* = Scenario after Volatility Adjustment r_t = Scenario before Volatility Adjustment σ_t = Volatility as of t t = Scenario Date N = Calculation Date</p>	<ul style="list-style-type: none"> In association with the revision of scenario generation method, when current interest rate level rises, there is a concern that IM requirement may become too small. Therefore, volatility adjustment method will be revised. Volatility Adjustment Formula currently in effect is as follows: $r_t^* = r_t \left(\frac{\sigma_t + \sigma_N}{2\sigma_t} \right)$ <ul style="list-style-type: none"> No volatility adjustment will apply to stress event scenarios in order to directly reflect interest rate fluctuation occurred at that time. <ul style="list-style-type: none"> In association with the revision of volatility adjustment formula, in order to restrict steep increase of IM requirement to a certain level even in the case of sudden interest rate change under market environment where volatility is at low, decay factor (λ) and Floor of volatility

Item	Description	Remarks
4. Clearing Fund Requirement IV. Implementation Timing	<ul style="list-style-type: none"> • The interest rate generation scenario for Clearing Fund will be changed to the absolute return based method, same as the interest rate generation scenario for IM requirement calculation. • Aimed at April 2016 (subject to approval by Commissioner of the Financial Services Agency). 	adjustment formula will be validated and revised. Specific level will be decided by the implementation timing of the revised methodology taking into account such validation.

End of document

Economic Conditions, etc. to be checked for Blended Rates Compression

1. Prerequisites for Blended Rates Compression

- ✓ The trade is cleared.
- ✓ No interest settlement is due on the day or the following business day.
- ✓ All Up-Front Fees have been settled.
- ✓ Usual Fixed vs. Floating rate SWAP (No amortizing/accumulating SWAP)

2. Predefined Economic Conditions of trades subject to Blended Rates Compression

(1) Items used as matching conditions at trade level

- ✓ Currency
- ✓ Maturity date

* Items not used as matching conditions at trade level

- ✓ Trade date of original trade
- ✓ Effective date
- ✓ Counterparty to original trade
- ✓ Clear date
- ✓ Notional Principal
- ✓ Fixed rate

(2) Items used as matching conditions at fixed/floating side level

【Common to fixed/floating sides】

- ✓ Current Interest Period Start Date
- ✓ Current Interest Period Payment Date
- ✓ Day Count Convention
- ✓ Roll Date Convention
- ✓ Roll Date
- ✓ Stub Type (Long/Short)
- ✓ Stub Type (Start/End)
- ✓ End Date
- ✓ End Date Adjust Convention
- ✓ End Date Adjust Holiday
- ✓ Payment Frequency
- ✓ Payment Date Adjust Convention
- ✓ Payment Date Adjust Holiday
- ✓ Calculation Period Frequency

【Specific to floating side】 【Specific to fixed side】

- ✓ Rate Index
- ✓ Rate Index Tenor
- ✓ Spread
- ✓ Compounding Method
- ✓ Rate Fixing Holiday
- ✓ Rate Fixing Days Offset
- ✓ Stub Rate Tenor 1
- ✓ Stub Rate Tenor 2
- None

Practical Examples of Terminated/Created Trades by Blended Rates Compression

<1. Extraction of the maximum & minimum fixed rates among trades eligible for Blended Rates Compression>

(Example of trades eligible for Blended Rates Compression)

#	Notional (JPY)	Fixed Pay/Rec	Fixed Rate	Notional × Fixed Rate (JPY)
1	1bill	Rec	1.75%	+ 17.5mil
2	3bill	Pay	1.75%	△52.5mil
3	1bill	Rec	1.71%	+ 17.1mil
Total		Pay		△ 17.9mil

Maximum fixed rate: 1.75%

⇒ Presume this as the fixed rate on the 1st trade and check with Par rate.

Minimum fixed rate: 1.71%

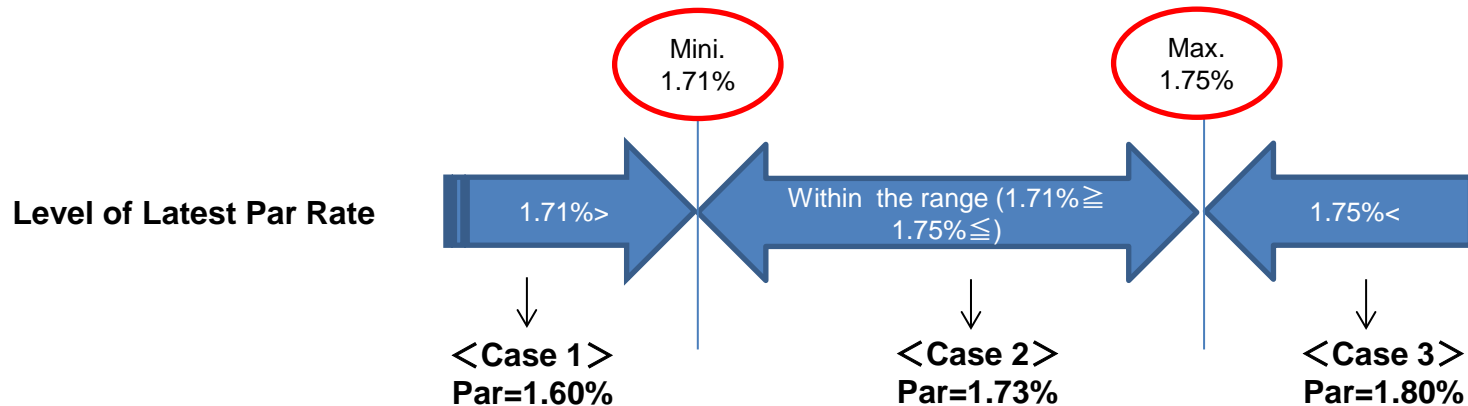
⇒ Presume this as the fixed rate on the 2nd Trade and check with Par rate.

Practical Examples of Terminated/Created Trades by Blended Rates Compression

<(2) Check with Par Rate>

Check the maximum & minimum fixed rates among eligible trades with the latest Par rate in the market corresponding to the residual period of such trades, and then replace the fixed rates on the newly created trades according to the results of the check.

- Replace the minimum fixed rate with Par rate, if Par rate is smaller than the minimum fixed rate. (Case 1)
- Use the maximum & fixed rates among the original trades, if Par rate is in the range between the maximum and the minimum one (including equal value). (Case 2)
- Replace the maximum fixed rate with Par rate, if Par rate is larger than the maximum fixed rate. (Case 3)



<(3) Replacement with Par Rate>

ケース1
Par=1.60%
 Max: 1.71% → **1.60%(replaced)**
 Mini: 1.75%

Case 2
Par=1.73%
 Max: 1.71%
 Mini: 1.75%

Case 3
Par=1.80%
 Max: 1.71%
 Mini: 1.75% → **1.80%(replaced)**

Practical Examples of Terminated/Created Trades by Blended Rates Compression

<(3) Calculation of Notional on Created Trades>

< Case 1> Par Rate =1.60%

Replace the minimum rate of 1.71% with Par rate (1.6%)

#	Type	Notional (JPY)	Fixed Pay/Rec	Int. Rec	Int. Pay	Notional x Fixed rate (JPY)
New 1	Fix vs. Float	1.266bil	Pay	Floating	1.75%	△22.16mil
New 2	Fix vs. Float	0.266bil	Rec	1.60%	Floating	+ 4.26mil
Total						△17.9mil

<Notional on a firstly created trade (1st Trade)>

1st Trade notional is calculated as follows:

$$\frac{[\text{Sum of each Original Trade's (Notional x Fixed Rate) - (Net notional of Original Trades) x Mini. Fixed Rate (after replaced)]}{\div (\text{Max. Fixed Rate} - \text{Mini. Fixed Rate (after replaced)})}$$

⇒In the above figure,

$$(17.9\text{mil} - 1\text{bil} \times 1.60\%) \div (1.75\% - 1.60\%) = \text{JPY}1,266,666,667\text{円}$$

<Notional on a secondly created trade (2nd Trade)>

2nd Trade notional is calculated as follows:

$$(\text{Net Notional of Original Trades} - 1^{\text{st}} \text{ Trade Notional})$$

⇒In the above figure,

$$(1\text{bil} - 1,266,666,666) = \triangle 266,666,667$$

(As the notional becomes negative value, payment/receipt of fixed payment needs to be reversed in 2nd trade.)

Practical Examples of Terminated/Created Trades by Blended Rates Compression

<Case 2> Par Rate=1.73%

#	Type	Notional (JPY)	Fixed Pay/Rec	Int. Rec	Int. Pay	Notional × Fixed rate (JPY)
New 1	Fix vs. Float	2bil	Pay	Floating	1.75%	△350mil
New 2	Fix vs. Float	1bil	Rec	1.71%	Floating	+17.1mil
Total						△17.9mil

<Notional on a firstly created trade (1st Trade)>

1st Trade notional is calculated as follows:

$$\begin{aligned} & \left[(\text{Sum of each Original Trade's (Notional} \times \text{Fixed Rate)} \right. \\ & \quad \left. - (\text{Net Notional of Original Trades} \times \text{Mini. Fixed Rate}) \right] \\ & \quad \div (\text{Max. Fixed Rate} - \text{Mini. Fixed Rate}) \end{aligned}$$

⇒ In the above figure,

$$((17.9\text{mil} - 1\text{bil} \times 1.71\%)) \div (1.75\% - 1.71\%) = 2\text{bil}$$

<Notional on a secondly created trade (2nd Trade)>

2nd Trade notional is calculated as follows:

$$(\text{Net Notional of Original Trades} - 1^{\text{st}} \text{ Trade notional})$$

⇒ In the above figure,

$$(1\text{bil} - 2\text{bil}) = \triangle 1\text{bil}$$

(As the notional becomes negative value, payment/receipt of fixed payment needs to be reversed in 2nd trade.)

Practical Examples of Terminated/Created Trades by Blended Rates Compression

<Case 3> Par Rate =1.80%

Replace the minimum rate of 1.75% with Par rate (1.8%)

#	Type	Notional (JPY)	Fixed Pay/Rec	Int. Rec	Int. Pay	Notional x Fixed rate (JPY)
New 1	Fix vs. Float	889mil	Pay	Floating	1.80%	△16mil
New 2	Fix vs. Float	111mil	Pay	1.71%	Floating	△1.9mil
Total						△17.9mil

<Notional on a firstly created trade (1st Trade)>

1st Trade notional is calculated as follows:

【Sum of each Original Trade's (Notional x Fixed Rate)

– (Net Notional of Original Trades x Mini. Fixed Rate)】

÷ (Max. Fixed Rate (after replaced) – Mini. Fixed Rate)

⇒ In the above figure,

$$(17.9\text{mil} - 1\text{bil} \times 1.71\%) \div (1.80\% - 1.71\%) = 888,888,889$$

<Notional on a secondly created traded (2nd Trade)>

2nd Trade notional is calculated as follows:

(Net Notional of Original Trades – 1st Trade notional)

⇒ In the above figure,

$$(1\text{bil} - 888,888,889) = 111,111,111$$

(As the notional becomes positive value, payment/receipt of fixed payment is the same as 1st trade.)

Economic Conditions, etc. to be Confirmed for Member Initiated Compression

1. Prerequisites to conduct Member Initiated Compression

- ✓ The trade is cleared.
- ✓ All Up-Front Fees have been settled.
- ✓ No interest settlement is due on the day or the following business day.
- ✓ No amortizing SWAP

2. Predefined Economic Conditions of Trades subject to Member Initiated Compression, and Generated Trades

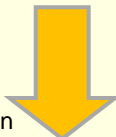
(1) Items used as matching conditions at trade level

- ✓ Not specified (Part of economic terms should be checked together with cash flow-check as below.)

(2) Items used as matching conditions at Cashflow level

【Cashflow on fixed side】

- ✓ Interest Period Start Date (After convention)
- ✓ Interest Period End Date (After convention)
- ✓ Interest Period Payment Date (After convention)
- ✓ Currency
- ✓ Interest Calculation Period (annual)
- ✓ Number of Days Code
- ✓ Payment Date Adjust Holiday
- ✓ Payment Date Adjust Convention



For future Cashflow of trades subject to Compression, sum-up their cash flows as one group if all the matching items above are identical.

Before/After the compression

- Sum of "Notional x Fixed Rate" should be identical.
 - Coupon settlement amount should be almost identical.
- (To be discussed about threshold of discrepancy arising from rounding going forward.)

【Cashflow on floating side】

- ✓ All items on the left
- ✓ Rate Index
- ✓ Rate Index Tenor
- ✓ Compounding Method
- ✓ Rate Fixing Holiday
- ✓ Rate Fixing Days Offset
- ✓ Stub Rate Tenor 1
- ✓ Stub Rate Tenor 2



For future Cashflow of trades subject to Compression, sum-up their cash flows as one group if all the matching items above are identical.

Before/After the compression

- Sum of Notional should be identical.
 - Sum of "Notional x Spread" should be identical.
 - Coupon settlement amount should be almost identical.
- (To be discussed about threshold of discrepancy arising from rounding going forward.)

2. Example of Using Member Initiated Compression ①

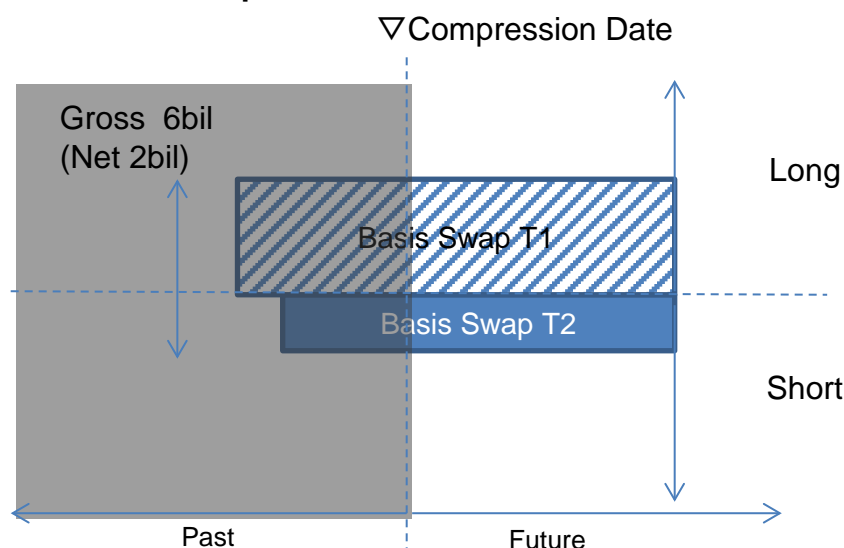
Spread Blending of Basis Swaps

- Utilization of Member Initiated Compression makes possible spread blending of basis swaps which is not covered by Blended Rates Compression and Vendor Initiated Compression.
- Example below shows spread blending of basis swaps of which coupon payment date, maturity and reference rate combination is identical, but spreads are different (T1 and T2), to replace with another trade (T3) having identical cashflow.

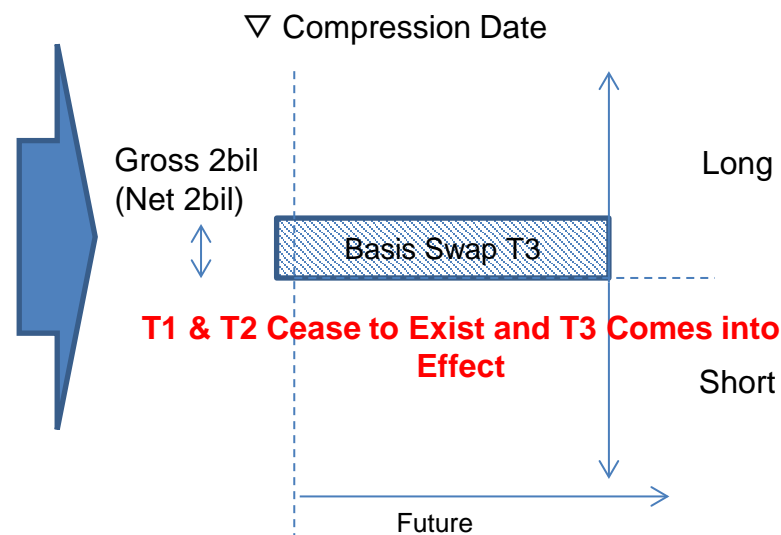
#	Participant	Notional	Floating vs Floating	spread	Spread Equivalent Annual Payment
T1	Participant A	JPY 4bil	LIBOR6M-ZTIBOR6M	7.875(bp)	$4\text{bil} \times 7.875\text{bp} = 3.45\text{mil}$
T2	Participant A	-JPY 2bil	LIBOR6M-ZTIBOR6M	7.625(bp)	$-2\text{bil} \times 7.625\text{bp} = -1.525\text{mil}$
		(Net Total) JPY 2bil			(Net Total) 1.625mil
T3 (New)	Participant A	JPY 2bil	LIBOR6M-ZTIBOR6M	8.125(bp)	$2\text{bil} \times 8.125\text{bp} = -1.625\text{mil}$
		(Net Total) JPY 2bil			(Net Total) 1.625mil

Set Spread to make Spread Equivalent Annual Payment the same based on net Notional of covered trade

< Before Compression >



< After Compression >



T1 & T2 Cease to Exist and T3 Comes into Effect

2. Example of Using Member Initiated Compression ②

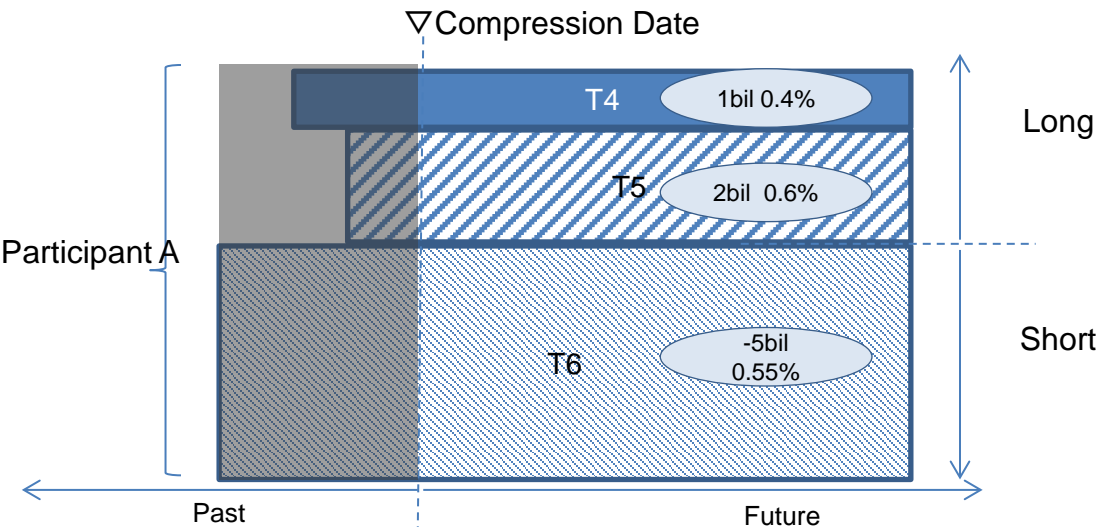
Blended Rates Compression based on Arbitrary Logic

- Utilization of Member Initiated Compression will make possible Blended Rates Compression based on arbitrary logic of each Participant.
- Example below shows Blended Rates Compression of Fixed vs Floating trades with identical coupon payment date, maturity and reference rate combination using method to adjust by creating trades based on weighted average rate (WAR).

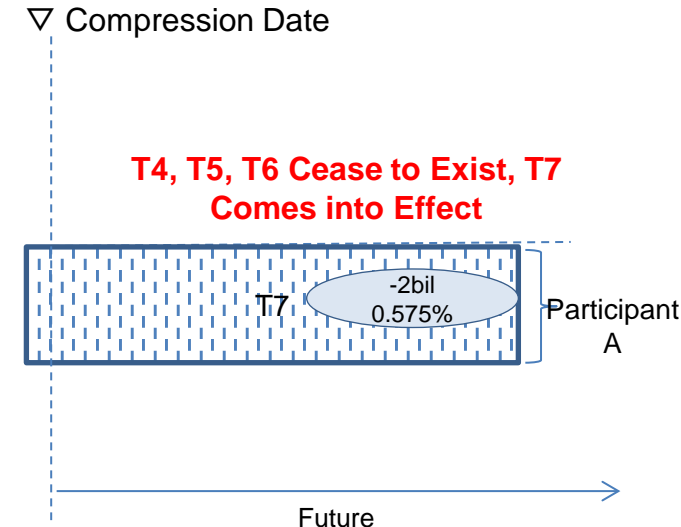
#	Participant	Notional	Floating vs Fixed	Coupon Equivalent Annual Payment	WAR
T4	Participant A	JPY1bil	LIBOR6M vs 0.4%	$1\text{bil} \times 0.4\% = 4\text{mil}$	
T5	Participant A	JPY2bil	LIBOR6M vs 0.6%	$2\text{bil} \times 0.6\% = 12\text{mil}$	
T6	Participant A	-JPY5bil	LIBOR6M vs 0.55%	$-5\text{bil} \times 0.55\% = -27.5\text{mil}$	
		(Net Total) -JPY2bil		(Net Total) -11.5mil	0.575% (*)
T7 (New)	Participant A	-JPY2bil	LIBOR6M vs 0.575% (*)	$-2\text{bil} \times 0.575\% = 11.5\text{mil}$	
		(Net Total) -JPY2bil		(Net Total) -11.5mil	

* WAR must be within range prescribed by JSCC.

<Before Compression>



<After Compression>



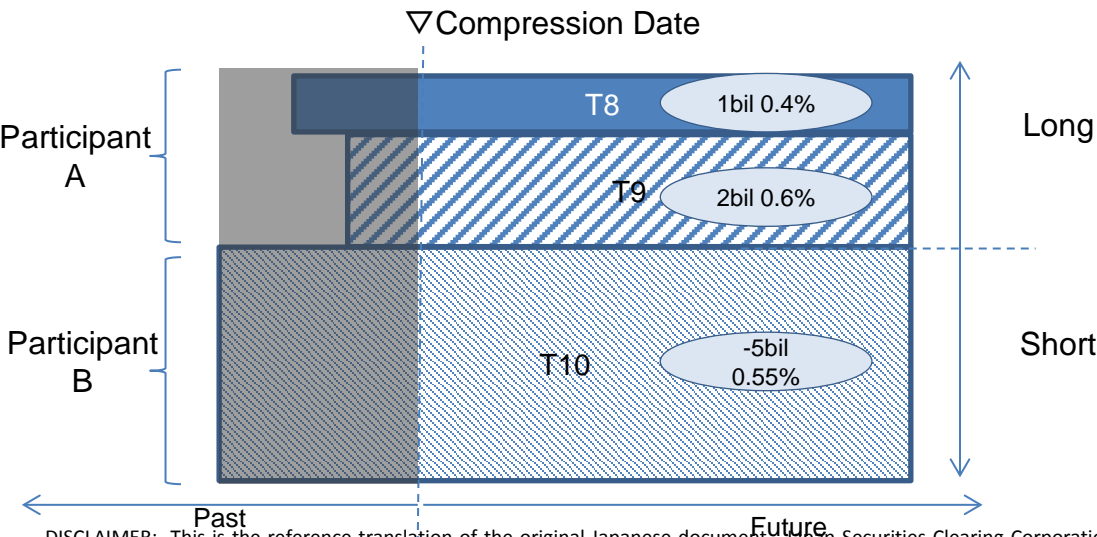
2. Example of Using Member Initiated Compression ③

Blended Rates Compression by multiple Participants

- Utilization of Member Initiated Compression will make possible Blended Rates Compression across multiple Participants.
- Example below shows Blended Rates Compression across Participants covering Fixed vs Floating trade with identical Coupon Payment Date, Maturity and Reference Rate (T8, T9 & T10), to replace with 2 trades with identical cashflow (T11 & T12).

#	Participant	Notional	Fixed vs Floating	Coupon Equivalent Annual Payment	Largest / Smallest Fixed Rate
T8	Participant A	JPY1bil	0.4% vs LIBOR6M	$1\text{bil} \times 0.4\% = 4\text{mil}$	
T9	Participant A	JPY2bil	0.6% vs LIBOR6M	$2\text{bil} \times 0.6\% = 12\text{mil}$	
T10	Participant B	-JPY5bil	0.55% vs LIBOR6M	$-5\text{bil} \times 0.55\% = -27.5\text{mil}$	
		(Net Total) -JPY2bil		(Net Total) -11.5mil	0.6%, 0.4% (No Par Rate Adjustment)
T11 (New)	Participant B	-JPY1.75bil	0.6% vs LIBOR6M	$-1.75\text{bil} \times 0.6\% = -10.5\text{mil}$	
T12 (New)	Participant B	-JPY0.25bil	0.4% vs LIBOR6M	$-0.25\text{bil} \times 0.4\% = -1\text{mil}$	
		(Net Total) -JPY2bil		(Net Total) -11.5mil	

<Before Compression>



<After Compression>

