Collateral Management Canada Services

Product Guide

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Foreword

Clearstream Banking launched the world's first multi–currency Triparty Repo Service in September 1992 and has continued to launch innovative collateral management products and services to address the financing and secured investment needs of international traders and investors.

The range of clients using these services continues to grow and includes central and sovereign banks, securities lenders and borrowers, custodians, commercial banks, international broker-dealers and assets managers.

Clearstream Banking's knowledge, experience and innovation is increasingly sought by major domestic institutions throughout the world either to guide them in the development of similar products to serve their local markets or to enter into a partnership to enhance the mobilisation of collateral.

This Product Guide contains information organised in the following chapters:

A Glossary of terms is included at the end of this Guide.

Client services

The daily administration and operational aspects of the Canadian Collateral Management Services (CCMS) are handled by a dedicated Collateral Management Services team.

Assistance is directly available from the **Collateral Management Desk**, as follows:

Group telephone:	+352-243-38113
Group fax:	+352-243-38262
Group email:	cmax@clearstream.com
Swift address:	CEDELULL

Contact

TMX will be available as the first level of support to assist CCMS Clients for all matters pertaining to the CCMS, as follows:

Group telephone:	+1-416-365-8421
Group email:	CCMS.PTIOperations@tmx.com

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1.   Overview

Clearstream Banking launched the Collateral management eXchange (CmaX) system in October 2006. The CmaX application centralises all collateral management services, from straightforward repos to tailored reuse structures, on a single platform. 2009 witnessed an expansion into new asset classes, with the launch of our equities service, which, in 2010, was developed into a fully customised service at par with our fixed income capability.

Over the last years, Clearstream Banking has entered into partnerships with market infrastructures to enhance the mobilisation of collateral. This has enabled CmaX to source assets held at other locations together with assets held at Clearstream to be used as collateral within Clearstream's triparty collateral management services.

The Canadian Collateral Management Service (CCMS) is a centralized collateral management service which allows the mobilization of collateral held at the Clearing and Depository Services Inc. (CDS).

CCMS automates collateral management in Canada, leveraging Clearstream Banking's triparty collateral state of the art allocation algorithm to efficiently allocate client's collateral and optimise all available collateral throughout the lifecycle of a collateral transaction from initiation to closure.

Collateral management umbrella

Clearstream Banking offers a complete range of services under its collateral management umbrella:

- **Triparty Repo Service (TRS)**

  For the settlement, collateralisation and maintenance of multicurrency repo transactions.

  Cash settlement and collateral management is based on delivery against payment (DVP) settlement.

- **Triparty Collateral Management Services (TCMS)**

  For the collateralisation of various exposures, such as bilateral cash loans, CSA, CSD and Central Counterparty (CCP) margining, central bank discount borrowing, securities lending transactions and management of initial margin exchange for uncleared derivatives etc.
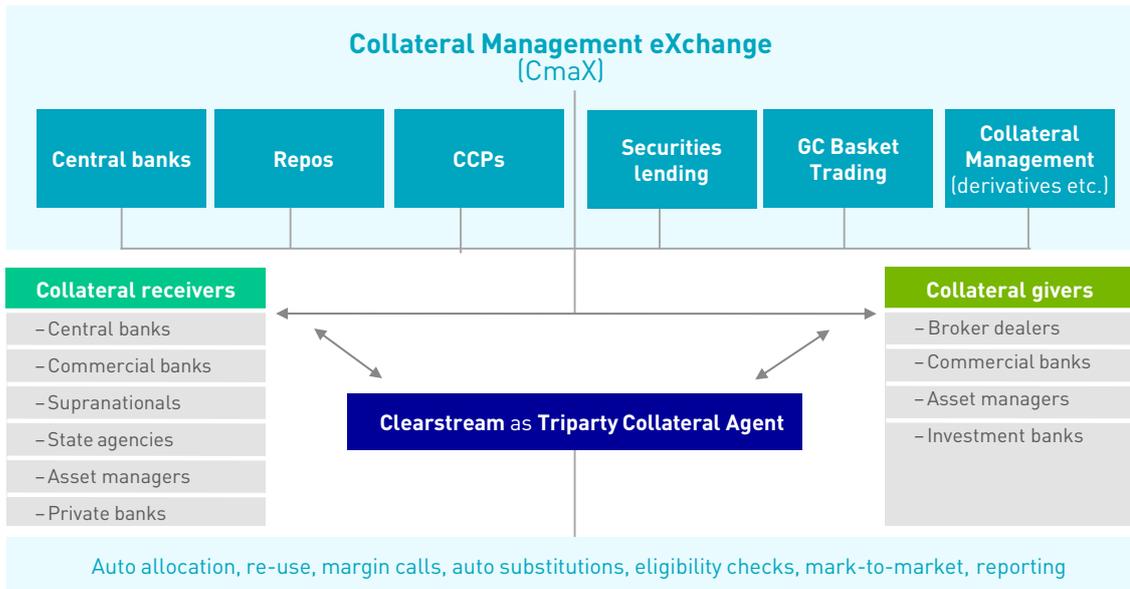
Figure 1-1. Overview of CCMS

Benefits and features of CCMS

Clearstream's triparty collateral management services simplify the administration of various multi–currency agreements for both Collateral Receivers and Collateral Givers. These services aim to reduce the operational risks associated with such transactions by offering true delivery against payment or free of payment settlement and securities safekeeping and monitoring services.

Core features	Added value services
True delivery against payment (TRS,) and free of payment settlement (TCMS)	Proactive counterparty introduction service, whereby carefully selected counterparties are introduced to one another
Use of sophisticated Auto-Assign (AA) Facility, which automatically selects and allocates securities to triparty transactions	A "state-of-the-art" Collateral Reuse service, enabling Collateral Givers to reuse securities received in triparty transactions
Unlimited substitution facilities (two-step conditional free of payment)	Flexible, client-defined eligibility profiles, concentration limits and margins
Pre-record date substitutions of securities	A wide range of communication options, including Swift, CCMS Web Portal and Xact File Transfer
Daily mark-to-market and detailed daily valuation reports by transaction and by net exposure	A multi-asset class capability
Proactive margin calls	

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2. Products and services

Triparty Repo Service (TRS)

The Triparty Repo Service offered by CBL is designed to simplify the process of administering multicurrency repurchase agreements for both Collateral Receivers and Collateral Givers. Furthermore, operational risks are reduced through an effective delivery against payment settlement at CDS level.

The service can be used to cover various types of principal agreements that the counterparties may have entered into, such as:

- Bilateral cash loans;
- CDCC SGC Note.
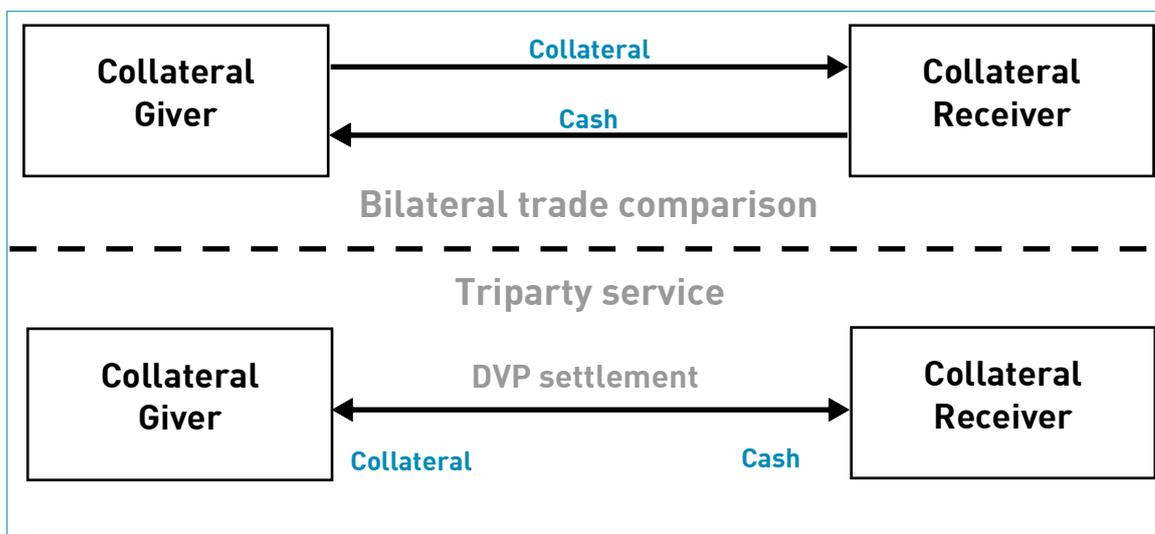
Figure 2-1. Triparty Repo Service (TRS)

When the trade notifications have been validated and matched, the collateral eligibility check is performed. Based on this eligibility check, CBL generates delivery against payment instructions to CDS to facilitate the transfer of collateral against its cash countervalue from the Collateral Giver's account to the collateral account in favour of the Collateral Receiver.

The Triparty Repo Service supports both fixed and floating rate repo transactions.

Floating rate repo

Triparty trades that are priced on a floating rate basis can be pegged to one of the following money market benchmarks:

- CORRA - Canadian Overnight Repo Rate Average.
- BOCOLR - Bank of Canada Policy Interest Rate.

A benchmark rate will apply (that is, considered for the calculation of interest) as of the next CCMS business day following its publication date.

Triparty Collateral Management Service (TCMS)

TCMS simplifies collateral administration for both Collateral Receivers and Collateral Givers. The service can be used to cover various types of principal agreements that the counterparties may have entered into, such as:

- Bilateral cash loans;

- Collateralisation for central bank credit and liquidity programmes;

- Collateralisation for CCP member margin requirements;

- Collateralisation of securities lending transactions etc.
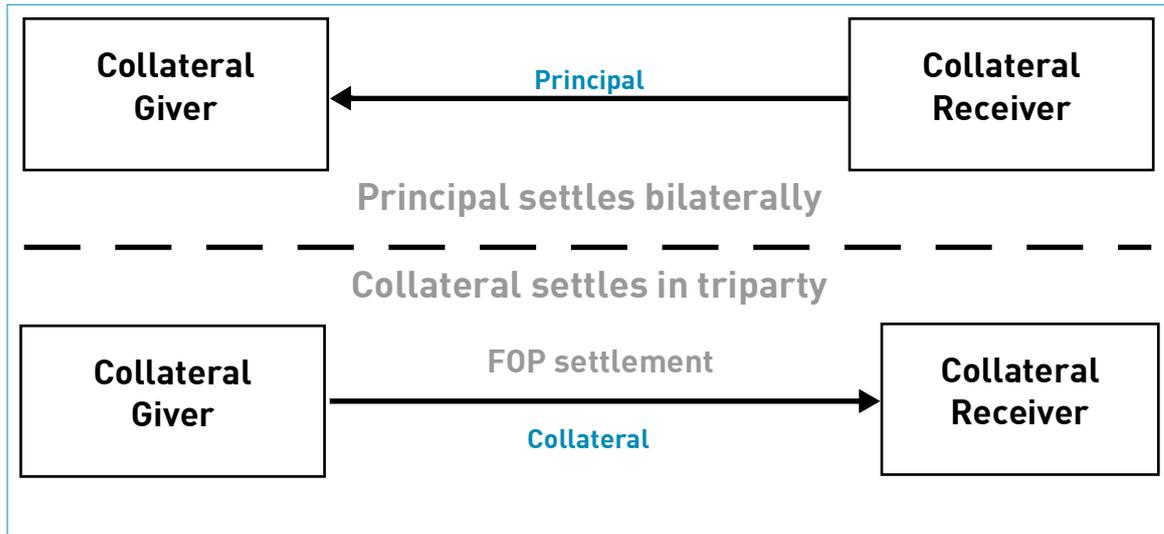
Figure 2-2. Triparty Collateral Management Service (TCMS)

Collateral is delivered from the Collateral Giver's account to the collateral account, free of payment. Clearstream performs a daily mark-to-market of the collateral securities and instructs margin calls to keep the collateral value in line with the underlying exposure. The participants must communicate, through matching notices, any change in the value of the principal.

3. Links to electronic trading platforms

CBL has established a partnership with a leading automated repo trading platform, Bloomberg, opening a new route to liquidity for clients.

The service offers straight-through communication of transaction information from the point of trade execution/affirmation directly to CBL's integrated collateral and risk management infrastructure.

Bloomberg

The link between the Canadian Collateral Management Service and Bloomberg's Professional Service offers clients faster and easier access to triparty repo through an automated order routing service.

Counterparties to a triparty repo transaction can initiate and execute the trade directly from their Bloomberg terminal, where it can be affirmed through Bloomberg VCON, indicating CBL as triparty agent. Bloomberg will automatically send the trade ticket to CBL via Swift MT527, on behalf of the collateral taker, thereby removing the need for additional connectivity.

CBL will match this Swift message with the corresponding message from the Collateral Giver and proceed to automatically handle the allocation, substitution and optimisation of collateral with real-time reporting.
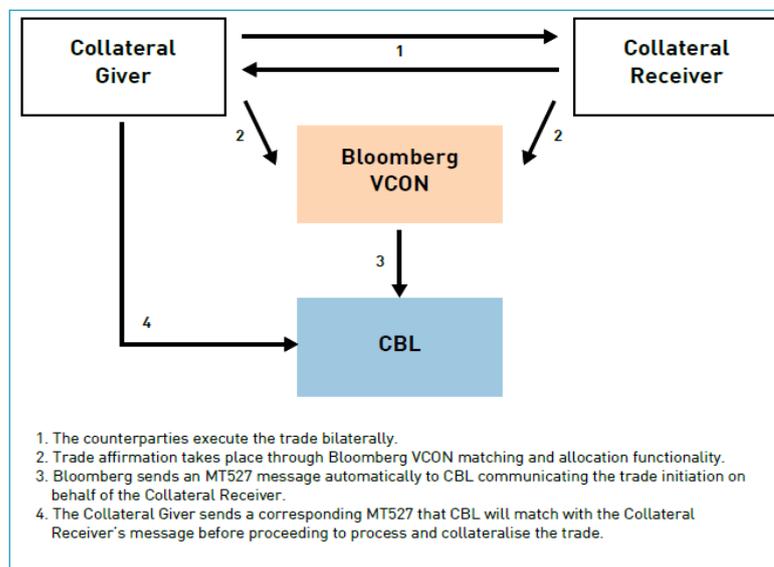
Figure 3-1. Triparty Repo Service (TRS)

4.   Getting started

Documentation

To facilitate the onboarding process to CCMS, the requirement to have a triparty contract in place per underlying bilateral relationship has been replaced by a single service agreement per client, signed bilaterally with CBL in addition to the CCMS Client Agreement between TMX, CBL and per client. As detailed below, a list of all accepted counterparties (with whom it is assumed that a bilateral contract is in place) will be added as an appendix.

Legal agreements

Collateral Givers and Collateral Receivers must provide an executed copy of the service agreements[1], as appropriate:

- Collateral Management Service Agreement (GCMSA) for Collateral Givers; and/or[2]
- Collateral Management Service Agreement (GCMSA) for Collateral Receivers;
- Side Letter to the Global Collateral Management Service Agreement (GCMSA) for Collateral Givers; and/or
- Side letter to the Global Collateral Management Service Agreement (GCMSA) for Collateral Receivers;
- CCMS Client Agreement.

The services provided by CBL under the GCMSA are independent of the provisions and obligations of the respective parties under the principal agreement and do not require the Collateral Giver and/or Collateral Receiver to be principal(s) under, or a party to, the relevant principal agreement in relation to which the services pursuant to the GCMSA are provided. Therefore, the Collateral Giver and/or Collateral Receiver may enter into the relevant GCMSA on behalf, or as representative of, the respective principals under the principal agreement. This does not, however, affect the role, position and responsibilities of the Collateral Giver and Collateral Receiver as sole principals under the respective GCMSA

Collateral Givers and Collateral Receivers must provide the following, as appropriate:

- Appendix A: Counterparty acceptance list and collateral eligibility criteria.

    The counterparties with which Collateral Receivers want to set up a triparty relationship must be listed in this document[3], as well as the service type and the applicable collateral eligibility criteria.

- AutoAssign Supplement (Collateral Giver only)

    This is a bilateral agreement between the Collateral Giver and CBL that authorises the automatic selection of securities from the Collateral Giver's account.

- Completed Triparty Collateral Management Client Operational Profile

    This document, which must be completed by any Collateral Receiver and Collateral Giver and sent to CBL's Global Securities Financing specialists, enables CBL to obtain key information from both counterparties to set up client operational preferences and facilitate the account opening process.

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1. Covering all CBL Triparty Collateral Management Services (TRS, TCMS), including the collateral reuse functionality.
2. Clients that want to benefit from the reuse functionality are required to execute both agreements.
3. If the holder of the Collateral Giver's source account is a different entity from the Collateral Giver, then the names and contact details of both entities must be listed in Appendix A.

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To obtain any of these documents or for further assistance, please contact your Collateral Management desk or go to the Clearstream website.

Principal agreements

When exposure instructions are received for processing in CmaX, CBL assumes that the appropriate bilateral principal market agreement has been executed between the operating parties. The setting up of such an agreement is within the sole responsibility of the counterparties.

The principal agreements can include:

- Global Master Repurchase Agreement (GMRA);
- ISDA Credit Support Annex (English Transfer of title).

Service types overview

Contracts will be governed by Service Types as selected in Appendix A and B of the GCMSA together with the counterparts / baskets.

Overview of CmaX Services and Service types:

Service	Service Type	Description	Custodian locations
TRS	TRS-OTH	TRS with other Master Repurchase Agreement	CDS
TCMS	TCMS-TT	TCMS with Transfer of Title	CDS

Additional product-specific legal documentation might be required depending on the product chosen. Please contact your Relationship Manager for details.

Account structure

Both the Collateral Receiver and the Collateral Giver need a CDS account administered by a CDS participant. The relevant PSCA (Participant Service Provider Agreement) will be signed per client and TMX which will allow instructions from CBL to be settled at CDS.

Each client should have a clearly demarcated CUID (Client Unit Identifier) with underlying source accounts and a newly opened 'Collateral Account'. The source account can be a combination of General Accounts within a CUID or only one, which the service will use to source collateral as a collateral giver.

Collateral accounts are simply a new General Account that is opened only for the purposes of the CCMS service. It is critical to the orderly functioning of the Service and the Market that this account is never manually instructed outside of instructions emanating from CCMS. Therefore, clients should not at any point instruct the collateral account, this can only be instructed by the CCMS in order to maintain the integrity of collateral received and if permitted – reused.

Collateral accounts are opened by CDS in conjunction with clients upon receipt of Appendix A or B to the Global Collateral Management Service Agreements (GCMSAs), duly signed or notified by Swift message in accordance with the GCMSAs. Collateral accounts are set up in accordance with the Client Operational Profile (Appendix D to the GCMSAs).

Collateral accounts are opened in a transfer of title structure - the Collateral Receiver is the collateral account holder.

Flexible account setup for Collateral Receivers

Triparty collateral accounts can be freely structured according to the Collateral Receiver's own objectives. By choosing to aggregate all the collateral received from their triparty activity into a reduced number of collateral accounts, they can ensure segregation along business lines and simplify reconciliation.

Figure 4-1 compares the following options, available to Collateral Receivers.
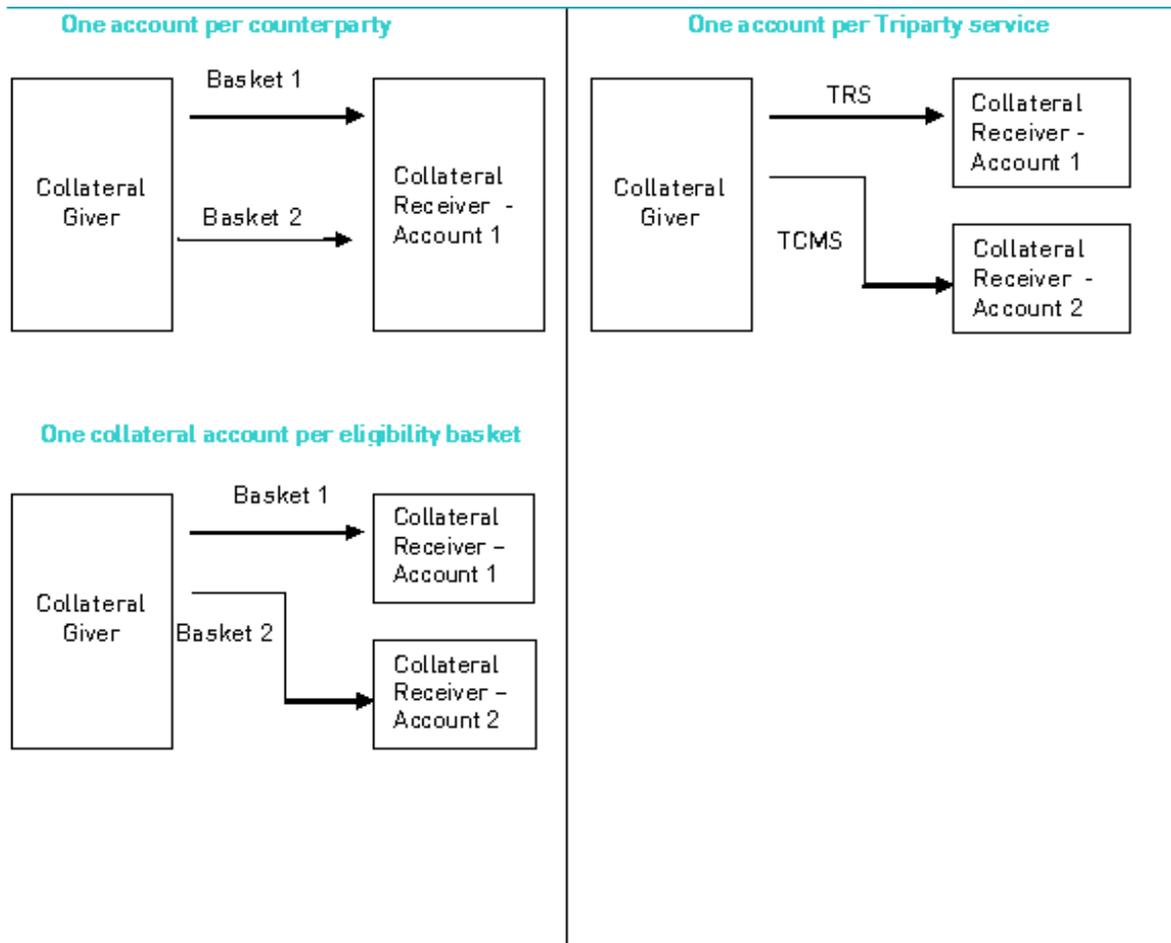
Figure 4-1. Flexible account setup for Collateral Receivers

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Multiple collateral source account option for Collateral Givers

With AutoAssign, Collateral Givers can define and prioritise multiple proprietary accounts within CDS as collateral source accounts to collateralise different exposure types automatically.

If the same priority is given to (all) accounts, AutoAssign will select the collateral across the different accounts. If different priorities have been defined by the client, AutoAssign will first select the collateral from source accounts with priority 1 after which collateral will be selected with priority 2 followed by priority 3 etc.

CDS will settle the cash leg of the opening repo and the cash leg of the closing repo in and out of the Fund Accounts of the counterparties.
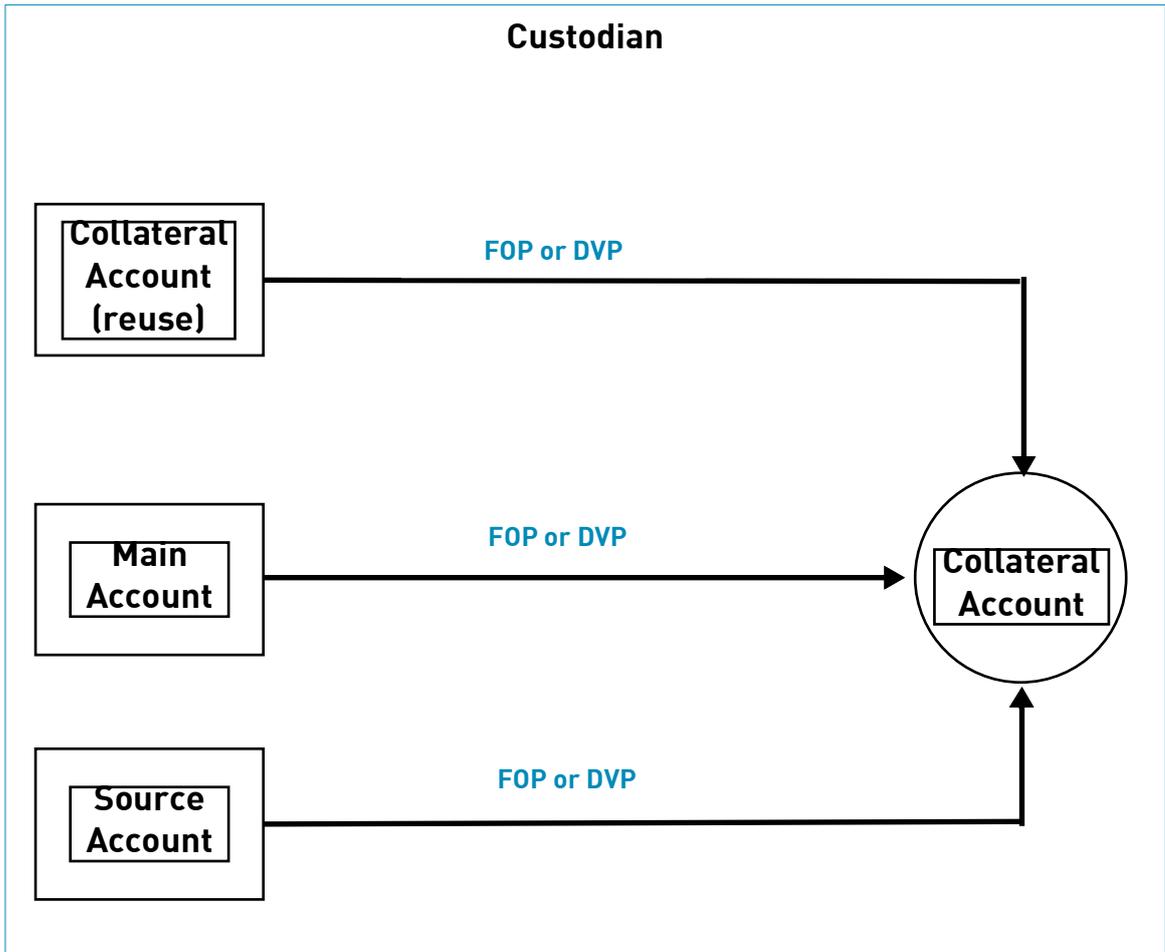
Figure 4-2. AutoAssign - multiple source accounts

Specific collateral source account structure for Collateral Givers

Collateral Givers have the option of implementing one or more specific collateral source account structures, so as to better control the flows of collateral allocation and target them to meet specific business structures or needs.

This option enables clients to define specific source accounts per contract, "earmarking" them for allocation to specific collateral accounts. This "one-to-one" account structure complements the multiple source account option described in the previous section, thus offering clients full flexibility to tailor the collateralisation process to their requirements.

Collateral allocation options for Collateral Givers

CBL will process collateral selection in AutoAssign (AA) mode.

AutoAssign (AA) mode

Collateral Pool

In the GCMSA, Collateral Givers can specify which account(s) form part of their eligible collateral pool for allocation in triparty. They can also assign a selection sequence to determine the order of priority for sourcing collateral from each account and, in the case of reuse, the order for sourcing own versus received collateral[1].

All eligible assets held in the specified accounts will be considered for collateral allocation, with the following exceptions:

- Securities marked for pending delivery eligible for settlement;
- Securities subject to certain upcoming income events and corporate actions (see "Custody events and corporate actions" on page 8-31 for further information).

Characteristics

The CCMS AutoAssign module runs continuously between 7:00 and 18:40 EST on Settlement Date.

- All initiations of new triparty exposures are treated in real time, upon receipt of matching instructions from both counterparties.
- Collateral is automatically selected from the Collateral Giver's collateral pool according to the eligibility profile defined by the Collateral Receiver.
- In the event of a partial opening, a collateral swap (substitution of collateral between collateral accounts) is triggered immediately, to attempt to fully cover all exposures.
- Collateral swaps are initiated to facilitate substitutions or to reduce or eliminate (partial) fails. A swap is triggered provided that differences in eligibility profiles between a Collateral Giver's counterparties create the opportunity for a three-way substitution. All securities movements are free of payment.

The following operations are triggered three times per hour, generating settlement instructions:

- Substitutions (2-step conditional Free of Payment) are triggered to meet settlement deliveries.
- A mark-to-market of collateral securities automatically triggers margin calls in response to any updates in security prices.
- In advance of a number of custody events and/or corporate actions, subject to certain conditions, substitutions are triggered in order to facilitate the reconciliation process.

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1. The order of priority for sourcing own versus received collateral is determined by the client in his Client Operational Profile.

Collateral selection order

Default allocation order

When selecting collateral to cover a triparty exposure, AutoAssign allocates collateral in ascending order of quality, in accordance with the predefined sequence shown in Figure 4-3 below:
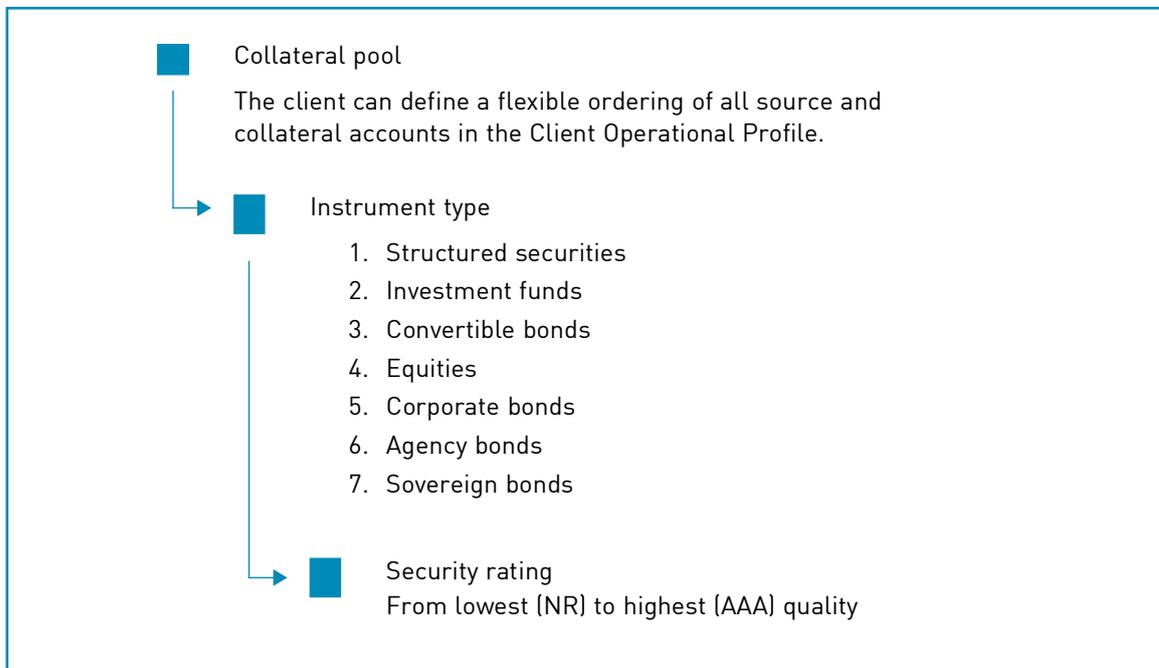
Figure 4-3. AutoAssign default collateral allocation order

This allocation order will ensure that, while the eligibility profile defined by the Collateral Receiver is respected throughout the duration of the trade, the Collateral Giver's portfolio of securities is deployed in an efficient manner and the possibility of fails on future transactions is reduced.

Default withdrawal order

When withdrawing collateral back to the Collateral Giver's account of origin, AutoAssign applies the reverse of the allocation order, thus returning the highest quality collateral first.

The following additional factors will be taken into account during the withdrawal sequence:

- Ineligible collateral pieces;
- Short positions;
- Reused positions.

The withdrawal sequence is illustrated in Figure 4-4 below.

■ Ineligible collateral pieces

■ Collateral pieces with the smallest short positions

■ Collateral pool
The client-defined ordering of all source and collateral accounts will be applied in reverse for withdrawals of collateral securities.

■ Instrument type
1. Sovereign bonds
2. Agency bonds
3. Corporate bonds
4. Equities
5. Convertible bonds
6. Investment funds
7. Structured securities

■ Security rating
From highest (AAA) to lowest (NR) quality

■ Further reused collateral pieces

Figure 4-4. AutoAssign default collateral withdrawal order

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Customised allocation order

Collateral Givers can opt to customise the AutoAssign allocation ordering in accordance with their business needs. This option gives clients the tools to minimise funding costs and enables a closer control over asset portfolios.

The customised ordering is set up at participant level and applies to all the triparty activity across counterparties, eligibility profiles and transactions. Collateral Givers can define their customised allocation order on the basis of the criteria shown in Figure 4-5 below.
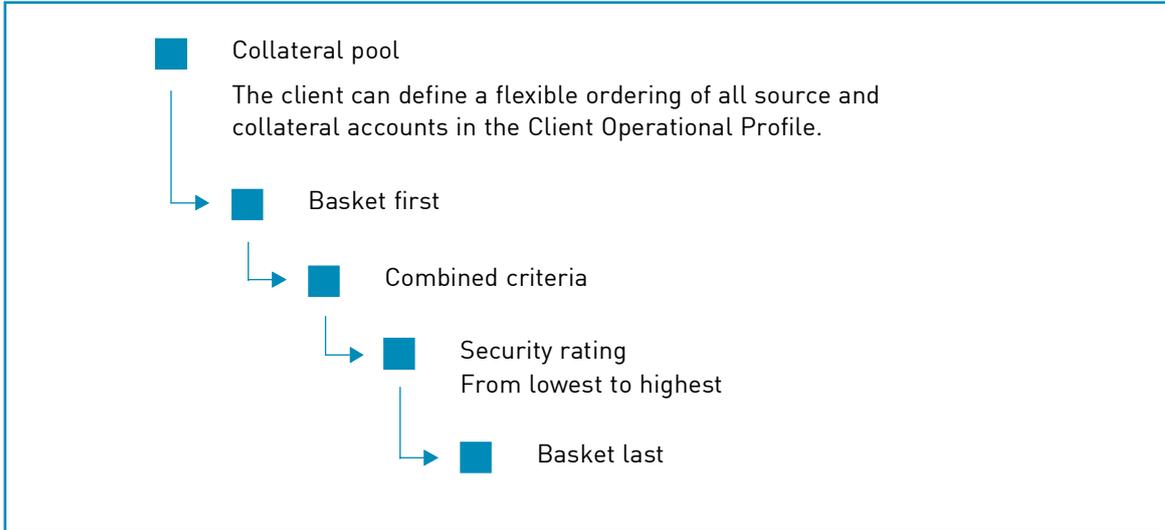
Figure 4-5. AutoAssign customised collateral allocation order

The combined criteria are at the core of the customised allocation order and can consist of any combination of the parameters listed in Figure 4-6 below.

Instrument category	Instrument group	Issuer type	Min. rating	Max. rating	Indices	Country
Debt	Mortgage-backed security	STRUCTURED	AAA	AAA	S&P/TSX 60	Canada
Equities	Government of Canada bond	SOVEREIGN	AA+	AA+	S&P TSX Composite	
	Corporate bond	CORPORATE	AA	AA		
	Municipal bond	AGENCY	AA-	AA-		
	Certificate of Deposit		A+	A+		
	Commercial Paper	CORPORATE	A	A		
	Canada Treasury Bill		A-	A-		
	Provincial note	SOVEREIGN	BBB+	BBB+		
	Provincial Treasury Bill	AGENCY				
	Provincial Saving Bond		BBB-	BBB-		
	Municipal note		BB+	BB+		
			BB	BB		
			BB-	BB-		
			CCC	CCC		
			D	D		
			NR	NR		

Figure 4-6. Combined criteria for customised collateral allocation

Figure 4-7 shows an example of possible combined criteria configurations:

Rank	Instrument category	Instrument group	Issuer type	Min. rating	Indices	Country
1		Commercial Paper	CORPORATE	A-		Canada
2		Certificate of Deposit	AGENCY	A-		
3	**Equities**				S&P/TSX 60	
4	**Debt**	Corporate bond	CORPORATE	AA		
5	**Debt**	Government of Canada bond	SOVEREIGN	AAA		

Figure 4-7. Example of combined criteria configuration

In this example, AutoAssign will start by allocating all eligible convertible bonds from the collateral pool and proceed by allocating securities that meet the specified criteria in ascending ranking order.

Customised withdrawal order

When withdrawing collateral back to the Collateral Giver's account of origin, AutoAssign applies the reverse ordering, so as to ensure that the participant's priority ranking is respected. The withdrawal sequence is illustrated in Figure 4-8 below.
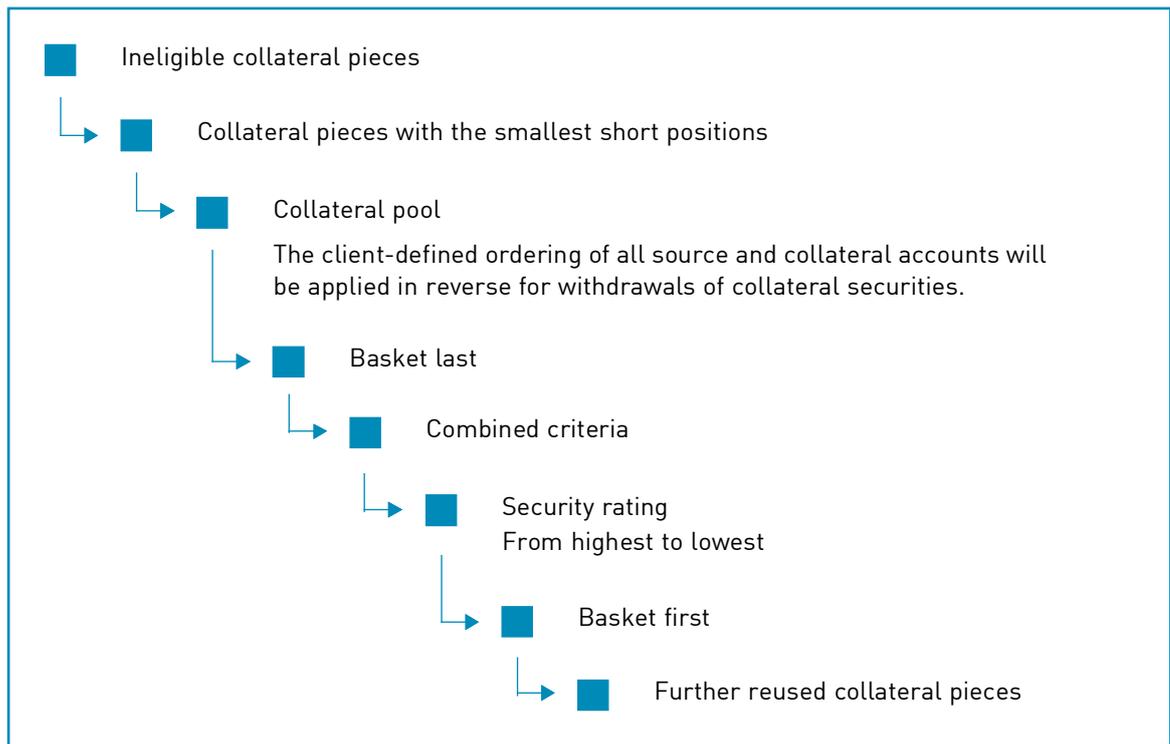
Figure 4-8. AutoAssign customised collateral withdrawal order

Note: Customised ordering is applied in cases of trade initiations, exposure adjustments, margin calls, substitutions and collateral withdrawals. When processing a collateral swap, AutoAssign overlooks customised ordering to ensure full coverage of a maximum of triparty exposures.

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5. Transaction life cycle

Throughout the life cycle of a transaction, Clearstream will receive matching trade notifications from both counterparties; validate the instructions; check collateral eligibility; generate against payment or free of payment settlement instructions; perform a daily mark-to-market of collateral (and loan) securities; process margin calls and substitutions and generate relevant reporting.

Figure 5-1. Transaction life cycle

Processing can take place during the CCMS business day, depending on the execution date and the time of receipt and matching of the message. For the appropriate deadlines, please refer to Appendix A of this Product Guide.

For details on the available communication channels and examples of all notification types, please refer to the CCMS Connectivity Guide, available on the Clearstream website.

Exposure initiation

The Collateral Receiver and the Collateral Giver send CBL a notification of the new triparty exposure.

Triparty Repo Service (TRS)

The delivery against payment (DVP) movements of securities and cash are submitted for the requested value date. The securities are delivered to the collateral account and the cash is delivered simultaneously to the Collateral Giver's account..
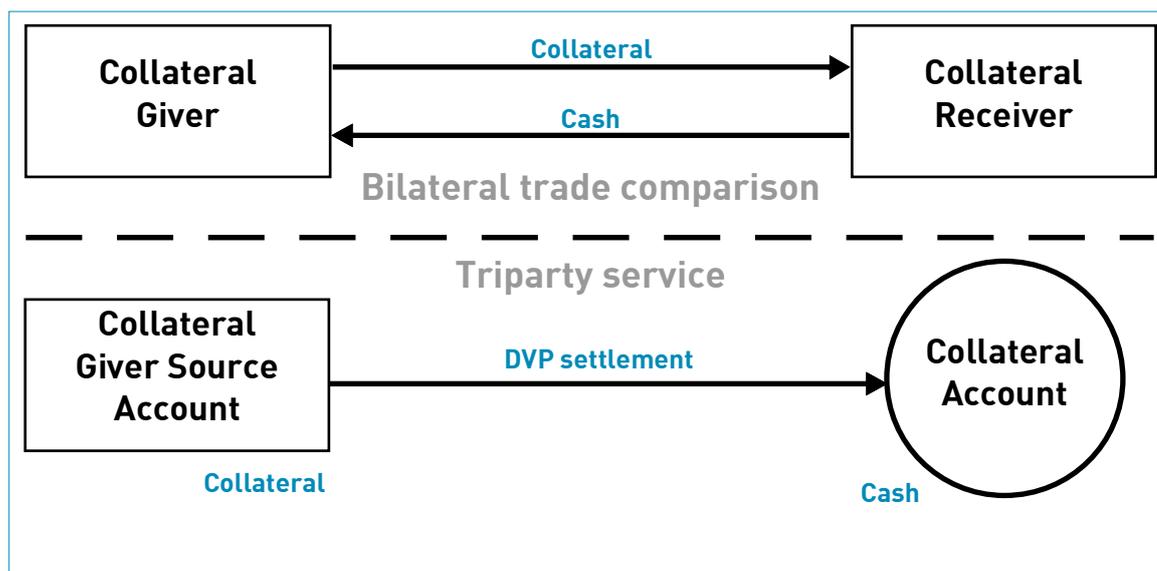
Figure 5-2. Exposure initiation for TRS

Triparty Collateral Management Service (TCMS)

The delivery instructions to transfer the collateral from the Collateral Giver to the collateral account are submitted for the requested value date.
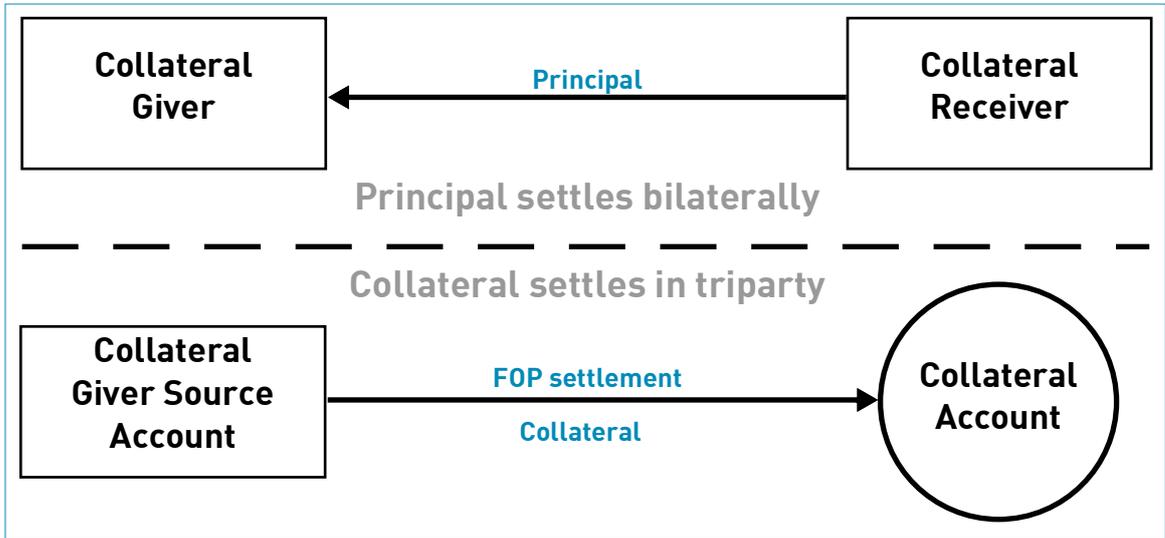
Figure 5-3. Loan/exposure initiation for TCMS

Margin calls

Note: The Collateral Receiver can define a margin excess/deficit tolerance level per contract, which AutoAssign will take into account when triggering margin calls. The tolerance level will apply individually to each transaction linked to that contract.

Margin deficit

If the net value of the securities held in a collateral account falls below the total loan/exposure value of all outstanding transactions between the same counterparties plus the appropriate margin, a securities top-up will be initiated. AutoAssign will automatically select sufficient eligible securities from the Collateral Giver's account(s).

The free of payment movements of securities are submitted for the requested value date.

A margin deficit can be identified in the daily triparty collateral management reports sent by CBL to both Collateral Receivers and Collateral Givers.

The top-up process is outlined below:
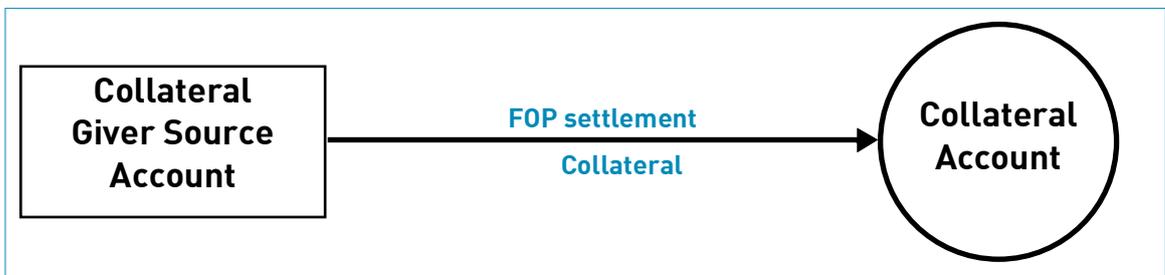
Figure 5-4. Margin deficit adjustment process

Margin excess

AutoAssign will automatically withdraw excess securities from the collateral account and return them to the Collateral Giver's account.

The free of payment movements of securities are submitted for the requested value date.

A margin excess can be identified in the daily triparty collateral management reports sent by CBL to both Collateral Receivers and Collateral Givers.

The withdrawal process is outlined below:
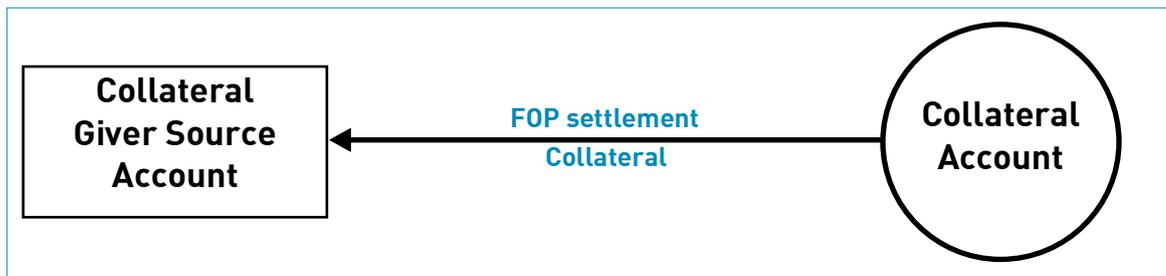
Figure 5-5. Margin excess adjustment process

Substitutions

AutoAssign will perform a substitution when collateral that has been allocated needs to be recalled and therefore replaced.

AutoAssign will automatically substitute sufficient eligible securities between the collateral account and the Collateral Giver's account, provided that the Collateral Giver holds sufficient replacement securities in his source account(s).

AutoAssign also detects any pending delivery instructions on the Collateral Giver's source account(s), and, if the securities are held in collateral accounts, substitutions will be triggered automatically.

In all collateral management services (TRS and TCMS), substitutions settle based on a 2-step conditional free of payment (FOP) mechanism, on a "give before you get" principle.

The substitution process is outlined in Figure 5-6 overleaf.
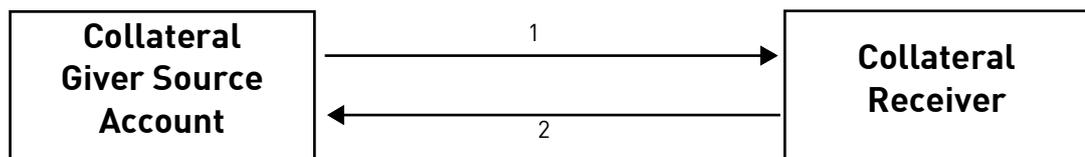
Figure 5-6. Substitution process

CCMS

Key process steps

Step 0. Need for a substitution identified by CmaX

Step 1.

1.1. CmaX allocates replacement securities and sends the settlement instructions for the incoming collateral to CDS - **Note**: CmaX keeps track of the securities to be released

1.2. CDS settles the allocation and provides settlement feedback to CBL

1.3. CmaX updates the collateral positions

Step 2.

2.1. Upon confirmation of the successful settlement from CDS, CmaX releases the return and sends the settlement instructions for the outgoing collateral(s)

2.2. The same as 1.2.

2.3. The same as 1.3.

Adjusting the terms of the trade

During the life of a triparty transaction, both counterparties may agree to modify the terms of the trade. Upon receipt of matching notifications, Clearstream will process the requested changes with good value.

Changes can be processed to amend the following parameters:

- Exposure adjustment;
- Pricing rate (Repo);
- Closing date.

Exposure termination

Both counterparties advise CBL of the maturity date of the transaction either at initiation or, for open exposures, during the lifecycle of the trade by sending CBL a matching Set Close Date notification.

The Set Close Date notification can be sent up until, and including, the planned maturity date, in accordance with the relevant market deadline.

Triparty Repo Service (TRS)

The securities are delivered back to the Collateral Giver's account and the cash proceeds, including the exposure interest, are simultaneously transferred to the Collateral Receiver's collateral account. The cash is booked by CDS directly on the Funds Account of the Collateral Receiver.

The exposure termination process for TRS is outlined in Figure 5-7 below.
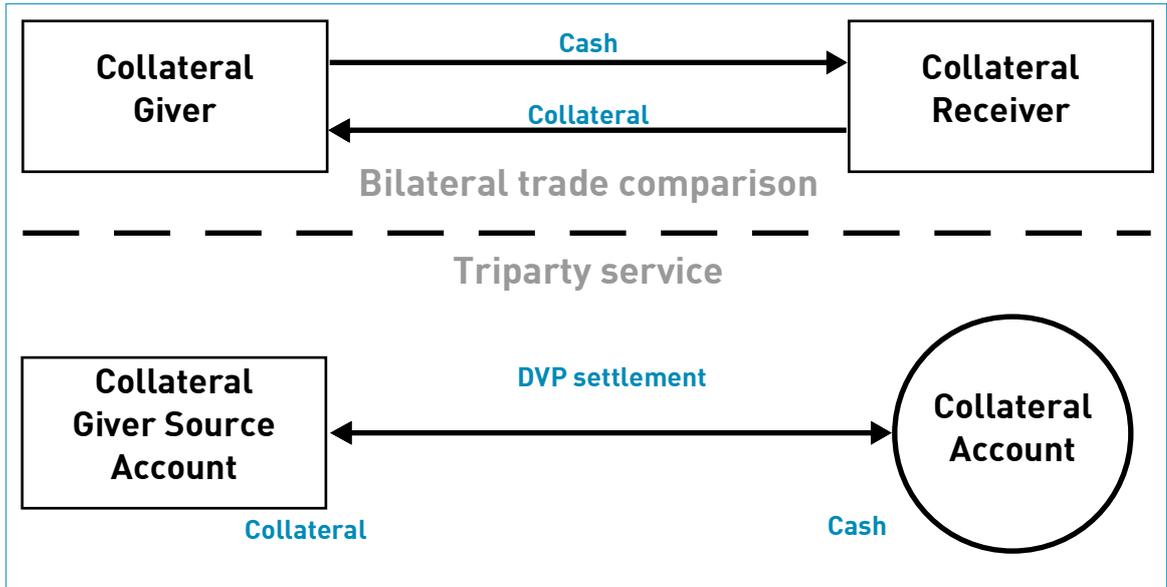
Figure 5-7. Exposure termination for TRS

Triparty Collateral Management Service (TCMS)

The collateral is transferred free of payment from the collateral account to the Collateral Giver's Account and the principal settles outside the framework of triparty. It is the responsibility of the counterparties to time their instructions so that the collateral is reversed to the Collateral Giver only once the principal has fully settled.

The exposure termination process for TCMS is outlined in Figure 5-8 below.
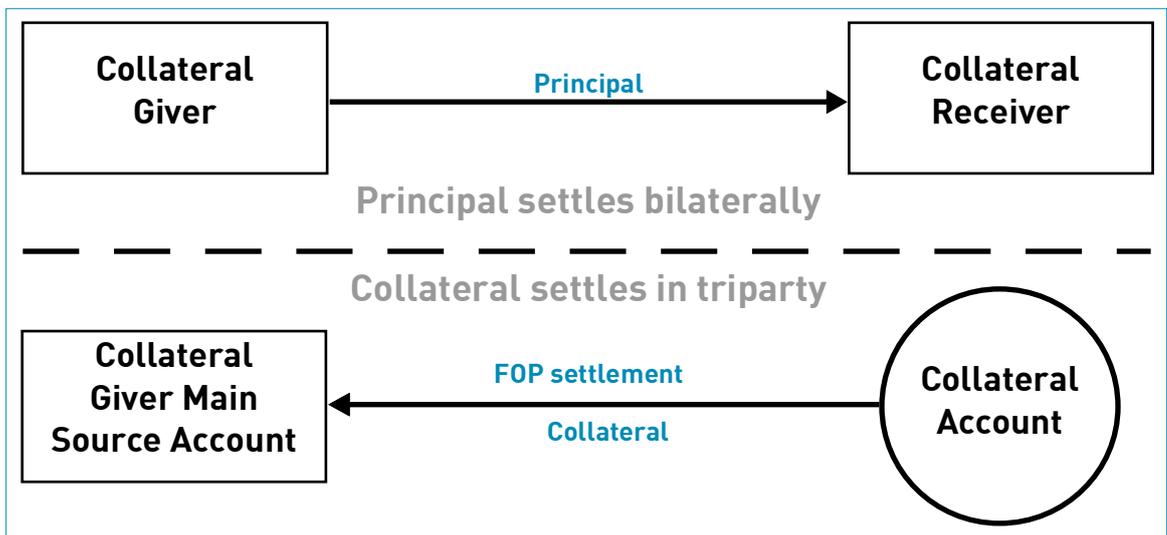
Figure 5-8. Exposure termination for TCMS

CCMS

Partial openings

If a transaction fails to settle fully for the specified value date, CBL will notify both the Collateral Receiver and the Collateral Giver.

In a DVP transaction, the Collateral Receiver will only deliver the cash countervalue of the collateral securities actually received. Any residual cash will remain on the Collateral Receiver's account, until sufficient collateral is delivered, thus ensuring that the Collateral Receiver is fully covered throughout the trade. Similarly, if the partial settlement is due to a shortage of funds on the Collateral Receiver's side, the Collateral Giver will be long in securities until the trade can be fully covered.

In AutoAssign mode, should a trade fail to settle fully upon initiation, the system will continue to attempt to collateralise the remaining exposure in every subsequent run, up until the close of the trade.

In the case of DVP transactions, the Collateral Giver will return the cash principal, with any interest due, on termination date, regardless of whether the trade was fully collateralised throughout its life cycle.

Principal Matching Tolerance

Clients have the choice of defining a matching tolerance at contract level, as either a fixed amount and currency or percentage, which is applicable during matching of principal amount. Principal tolerance matching is only applicable to Triparty Collateral Management Services (TCMS) and for the following exposure notification types: initiation (new exposure) and change of principal (increase or decrease).

Matching of principal based on tolerance matching takes place on the lowest undisputed amount (of the two principal amounts instructed by both participants), if both requested principal amounts are within the principal amount of matching tolerance defined at contract level.

6. Collateral reuse

Clearstream's innovative, cross-product collateral reuse functionality enables Collateral Receivers to maximise trading opportunities by reallocating collateral received in triparty transactions to collateralise other triparty exposures where they act as Collateral Giver.

With AutoAssign, Collateral Receivers that reuse collateral will benefit from all existing advantages offered by the collateral agent (for example, unlimited right of substitution, automatic recalls for settlement or taxable corporate actions).

Benefits and key features

Cross-product collateral reuse enables clients to reuse any collateral received in triparty transactions across the different triparty collateral products:

- Triparty Repo Service (TRS)
- Triparty Collateral Management Service (TCMS)

While retaining the full benefits of the traditional triparty structure, reuse lifts liquidity constraints and maximises trading opportunities within a secure environment.

Reuse structures can be tailored to cater for specific client needs. For further details, please contact your Collateral Management Service team.

An illustration

As Collateral Receiver in Figure 6-1 overleaf, you have entered into triparty trades with Collateral Givers A, B and C and, as a result, have received collateral that may be the proprietary assets of your counterparties or assets that they in turn have received through other triparty trades. When acting as Collateral Giver in future trades with participants D, E and F, you can opt to pledge your proprietary assets as collateral or to onward pledge the assets received from participants A, B and C, thereby maximising your trading possibilities.
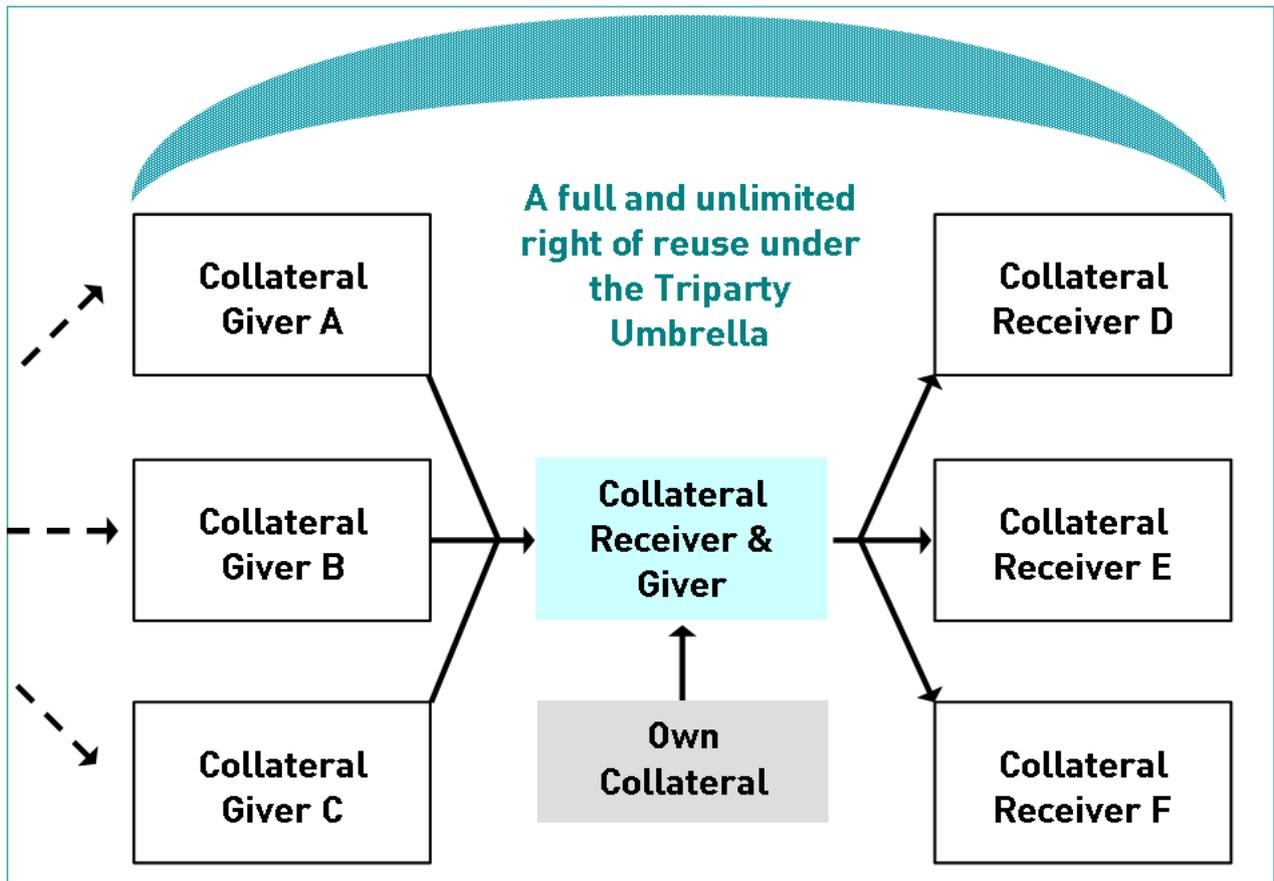
Figure 6-1. Collateral reuse

Note: Collateral reuse is an option for Collateral Givers and must be specifically requested via the Client Operational Profile.

Account structure options in a reuse environment

With AutoAssign, Collateral Givers can define and prioritise collateral accounts available for reuse as collateral source accounts to collateralise different exposure types automatically. Through this configuration, the client will have the option to either give the same priority to all source accounts or to give a (specific) priority to the source accounts.

If the same priority is given to (all) accounts, AutoAssign will select the collateral across the different accounts. If different priorities have been defined by the client, AutoAssign will first select the collateral from source accounts with priority 1 after which collateral will be selected with priority 2 followed by priority 3 etc.

Reuse of collateral to pledge to underlying clients

Lending desks or any Collateral Receivers who are looking for a sound legal structure and easy setup to allocate received collateral in return for loan securities or any other exposure can also benefit from the reuse functionality offered by CBL.

As illustrated in Figure 6-2, Collateral Receivers that require allocation of collateral to underlying clients can do so by opening segregated collateral accounts in their own names, on which the assets are pledged free of payment to their underlying clients.
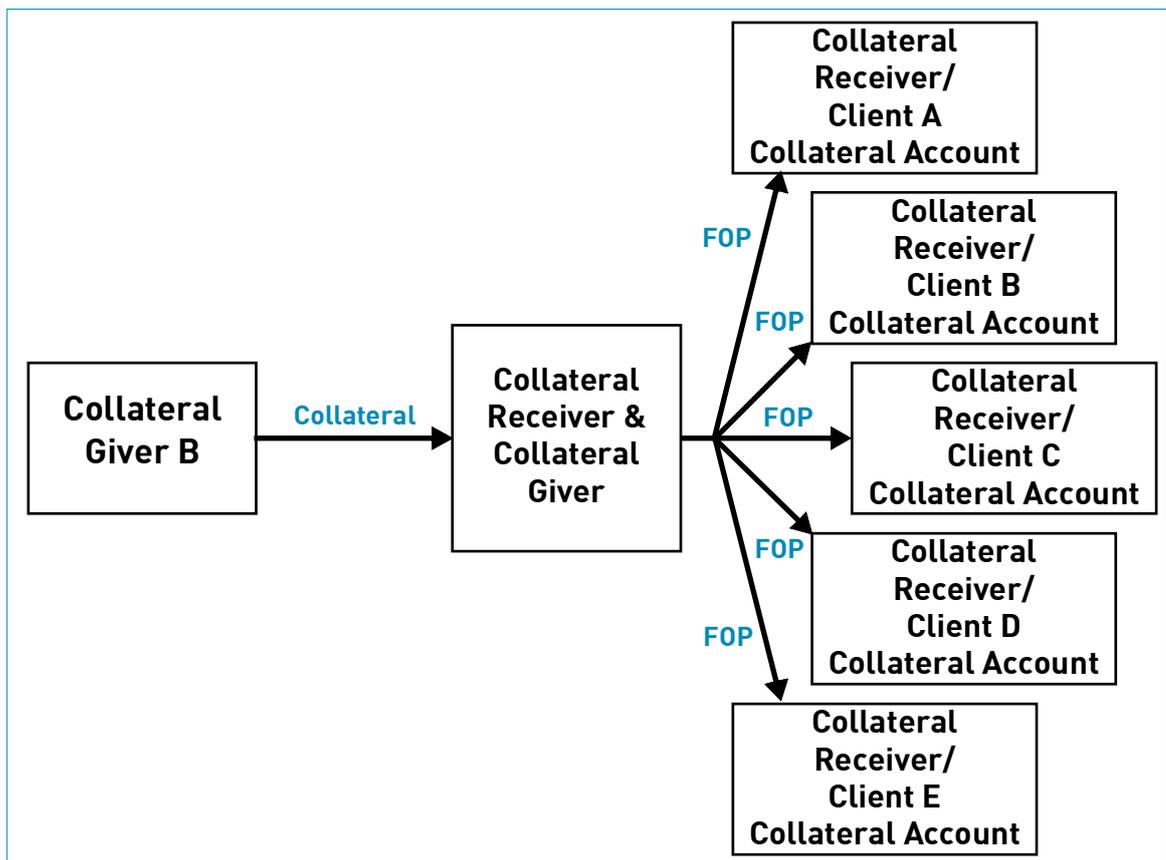
Figure 6-2. Collateral reuse - Pledge to underlying clients

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7. Collateral eligibility, price selection process, valuation and ratings

Collateral eligibility

The eligibility profiles are part of Appendix A of the Global Collateral Management Service Agreement for Collateral Receivers, available on the Clearstream website.

Eligibility profiles

Eligibility profiles can consist of:

- Customised eligibility profiles based on a range of criteria defined by Collateral Receivers in accordance with their risk tolerance levels. Clients can freely combine any number of available collateral criteria to create customised eligibility rules in the most flexible way.

- Clients can choose to combine different reference data fields that may be captured by Clearstream Banking using different data vendors to build up their eligibility profiles. Asset categorisation of selected reference fields is based solely on the published categorisation of the data vendors. Eligibility rules will be based on the categorisation applied to selected reference data fields.

Note: Clients can also set up eligibility profiles on the basis of lists of specific issuers, securities or groups of securities.

Bonds

Eligibility criteria for bonds include security type, issuer type, issuer country, rating and industry sector. These criteria can either be applied to all bonds or can be set up at issuer type level or, if applicable, at structured security type level.

- Issuer types are:

  Sovereign, Agency, Corporate, Structured, Convertible bonds.

- Structured security types are:

  Covered bonds, Asset-backed securities, Collateralised debt obligations, Credit-linked notes, Mortgage-backed securities.

Equities

Eligibility criteria for equities include security type, issue country, rating, industry sector, market capitalisation and market index.

- Security types are:

  Ordinary share, preferred convertible share and unit.

Exposure

As well as the specific asset class criteria described above, clients can also define eligibility criteria based on exposure related parameters, including exposure currency, exposure duration or remaining duration and exposure opening/closing date.

CMCS

Clients can also use business date and time to fine-tune collateral eligibility to a more granular level. For example, they can exclude a particular type of instrument during a certain time window every day, or can restrict/expand collateral eligibility during particular days or weeks.

Concentration limits

Clients can apply concentration limits to restrict the quantity (expressed in amount or percentage value) of a specific type of security in their portfolio and/or to diversify their holdings.

Calculation

Concentration limits are applied at contract level. A base amount is calculated for each transaction as the maximum between two values, as follows:

Max {Exposure amount; Collateral value of allocated collateral}

Each concentration limit will apply to the sum of the base amounts of all underlying transactions. When allocating collateral securities to cover an exposure, the system will ensure that their collateral value does not breach any of the concentration limits under the contract. Where there is an overlap between two concentration limits, the strictest limit will always prevail.

Example:

- 40% limit on Canadian bonds
- 20% limit on Canadian corporates
- 10% limit on BBB rated bonds

In this example, Canadian bonds can be allocated to cover up to 40% of the collateral requirements under a contract. Of this 40%, half can consist of Canadian corporate securities. Furthermore, Canadian corporates with a rating between BBB+ and BBB- will only be allocated up to 10% of the total exposure.

Flexible options

Concentration limits can be applied across a range of criteria either across asset classes, or for bonds, equities or funds only.

Concentration limits for bonds can be applied on criteria such as security type, issuer country, credit rating, outstanding amount, industry sector, time to maturity and price characteristics.

Haircuts

Haircuts are constructed on the basis of groups of rules which are applied incrementally. With respect to any single piece of eligible collateral, the haircut derived from each group of rules is added to the haircuts derived from all other groups in the collateral basket to derive the final applicable haircut.

Haircuts can be applied per asset class:

- Haircuts on bonds can be applied as a function of, for example, issuer country, industry sector, credit rating, evaluated price and price quotation age.

    Haircuts can be applied to all bonds or can be set up at bond risk profile level. Bond risk profiles are: Sovereign, Agency, Corporate, Structured, Convertible.

- Haircuts on equities Haircuts on equities can be applied, for example, per eligible market index, currency, price volatility, price quotation age, market capitalisation and average traded volume.

    Haircuts can be applied to all equities or can be set up at the security type level. Security types are: Ordinary shares, Preferred convertible shares, Units.

It is possible to define, at contract level, whether haircuts should be calculated using the European or the U.S. margin calculation method.

Valuation corrective measures

If neither haircuts on price quotation age nor a price age ceiling is defined by the parties in their collateral eligibility criteria, Clearstream applies valuation corrective measures for any security whose price has not been updated within the last 30 business days.

The default additional haircuts[1] for ageing prices are as follows:

- Additional 10% margin for any sovereign or agency issuer;
- Additional 20% margin for any corporate or structured security.

Bond type	Over (# days)	Additional margin (%)	Ineligible after (# days)
All bonds			
Sovereign	30	10	
Supranational & Agency	30	10	
Corporate	30	20	
Structured	30	20	
Convertible			

Figure 7-1. Dynamic haircuts and price quotation age

Valuation method

Clients can choose between the European or U.S. valuation method for calculating the collateral value of a security. The two valuation methods are defined below:

- European valuation (default)

Bonds $\quad \text{Quantity} * \dfrac{(\text{Market Price} + \text{Accrued Interest})}{(100 + \text{Margin})} * \text{Valuation Factor}$

Equities $\quad \text{Quantity} * \dfrac{(\text{Market Price})}{(100 + \text{Margin})/100}$

- U.S. valuation (optional)

Bonds $\quad \text{Quantity} * \dfrac{(\text{Market Price} + \text{Accrued Interest})}{100} * \dfrac{(100 - \text{Margin})}{100} * \text{Valuation Factor}$

Equities $\quad \text{Quantity} * \text{Market Price} * \dfrac{(100 - \text{Margin})}{100}$

Margined value:

The collateral value of the security expressed in the quotation currency of the security.

Accrued interest:

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1. These additional haircuts are applied to the most recent price received. Please refer to "Price source and type" on page 7–27.

Clients can define, at contract level, whether clean or dirty prices should be used to value collateral.

Valuation factor:

Either the pool factor or the index factor for valuation of the security.

Foreign Exchange rates:

Clearstream uses daily exchange rates obtained from recognised data providers to evaluate collateral securities and exposures across currencies.

Pricing selection process

Clearstream uses prices provided by CDS to value Canadian securities.

Note: This section describes the default pricing methodology that CBL applies to all collateral under management as neutral triparty agent.

For information on external valuation options, see "External valuation options" on page 7–28.

Price source and type

Securities prices are automatically collected from CDS on a daily basis.

For debt instruments issued by the Bank of Canada, CDS will source prices from the Bank of Canada.

For all other Canadian debt instruments, CDS will source prices from CanDeal.

For equities, CDS will source the prices from TMX Datalinx.

If, on a given date, no new price for a security is received from CDS, Clearstream will maintain the most recent available price.

External valuation options

As neutral collateral management agent, Clearstream currently applies an independent in-house valuation of collateral securities across triparty contracts, as described in preceding sections.

Clients can, however, choose to apply, across selected contracts, their own valuation parameters (prices and/or haircuts), those of their counterparty or those of a third-party data provider.

You can choose from two types of service for external valuation:

- Strict option - restricting collateral eligibility to the securities actually valued by the appointed party;

- Flexible option - prioritising external valuation parameters but, when unavailable, using the CCMS default valuation described under section "Price source and type" above, as fall-back.

The choice of service and external data provider should be indicated per contract in Appendix A of the Global Collateral Management Service Agreement.

The third-party data provider is responsible for sending a single valuation file per day or multiple intraday valuation files, as the case may be. The files should be sent to Clearstream via Xact File Transfer, our internet file transfer solution.

Clearstream ratings

Clearstream applies an in-house rating to both security and issuer ratings in order to determine eligibility under each contract. The ratings are derived through a combination of the Moody's, S&P and Fitch ratings. Within the collateral baskets there are three types of ratings:

- Security Rating: The security rating is always the lowest of our rating providers.
- Issuer Rating: The issuer rating is always the lowest of our rating providers.
- Applied Rating: The applied rating is used to simplify rules within the collateral basket:
    - Sovereign bonds:The applied rating is always the lowest of the security and issuer rating.
    - Non-Sovereign Fixed Income: The applied rating is the security rating, if the security rating is NR then the issuer rating is applied. This default rule can be overridden, at basket level, by excluding issuer ratings per eligible issuer type (agency, corporate, structured, convertible bonds) and/or structured security type.

Issuer ratings are used by default to value equity collateral.

Note: The credit rating selected in accordance with defined client preferences will be consistently applied to both the eligibility check, haircuts and the relevant concentration limit calculation.

Clearstream applied ratings are shown on the Triparty Collateral Management Daily Exposure report.

Figure 7-2 below compares the long-term and the short-term ratings of the three ratings providers with Clearstream's own composite ratings.

	Clearstream rating	Moody's	S&P	Fitch
Long term				
	AAA	Aaa	AAA	AAA
	AA+	Aa1	AA+	AA+
	AA	Aa2	AA	AA
	AA-	Aa3	AA-	AA-
	A+	A1	A+	A+
	A	A2	A	A
	A-	A3	A-	A-
	BBB+	Baa1	BBB+	BBB+
	BBB	Baa2	BBB	BBB
	BBB-	Baa3	BBB-	BBB-
	BB+	Ba1	BB+	BB+
	BB	Ba2	BB	BB
	BB-	Ba3	BB-	BB-
	B+	B1	B+	B+
	B	B2	B	B
	B-	B3	B-	B-
	CCC	Caa1	CCC+	CCC+
	CCC	Caa2	CCC	CCC
	CCC	Caa3	CCC-	CCC-
	CC	Ca	CC	CC
	C	C	C	C
	D		D	D
	NR	NR	NR	NR
Short term				
	A-1+	P-1	A-1+	F1+
	A-1		A-1	F1
	A-2	P-2	A-2	F2
	A-3	P-3	A-3	F3
	B		B	B
	C		C	C
	D		D	D
	NR	NR	NR	NR

Figure 7-2. Long- and short-term rating scale comparisons

8.   Custody events and corporate actions

This chapter outlines the custody process in place at CDS for transactions executed in automatic mode.

Event handling in CCMS

The handling of custody events and corporate actions, that impact securities held in triparty, based on triggering an auto-substitution in anticipation of each scheduled event impacting a collateral position would limit the available collateral pool unnecessarily, burdening the Collateral Giver with excess funding costs.

The approach taken is to minimise the number of auto-substitutions.

Entitlement

Under the current market convention, most Canadian fixed income securities have their maturity or pay interests end of June and end of December. On pay date, CDS will credit any income payment that arises on collateral securities to the account holding the securities over record date, without consideration of who is entitled to the economic benefits of the assets.

Illustration

- Security: ISIN 1
- Record date/Pay date: 18 August 2023

a. Record date/Pay date.
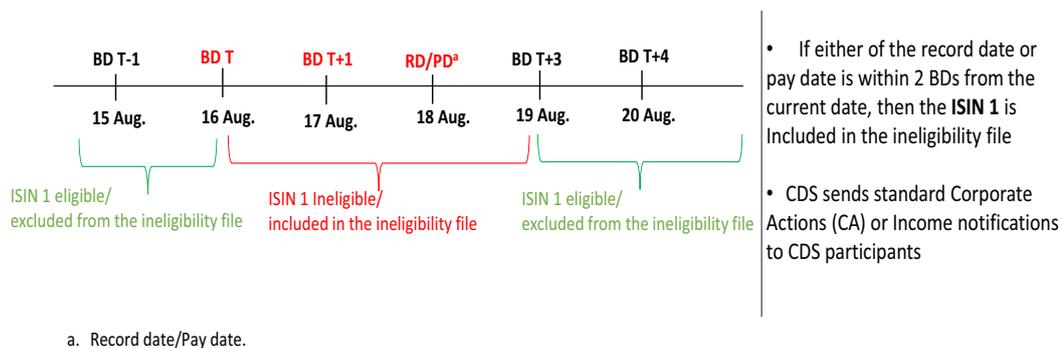
Figure 8-1. CDS Business Day – Daily ineligibility file sent to CCMS

Substitutions

Upon receipt of the ineligibility file from CDS, CCMS will trigger automatic substitutions on securities subject to corporate actions/income payments 2 business days before the event start date. The securities become eligible once more for collateral allocation on the next business day following the event end.

BD T-1	**BD T**	**BD T+1**	**RD/PD* T+2**	**BD T+3**	**BD T+4**
15 Aug.	16 Aug.	17 Aug.	18 Aug.	19 Aug.	20 Aug.

Eligible — Ineligible — Eligible

1   2   3

1. **ISIN 1** is eligible for allocation
2. **ISIN 1** becomes ineligible when the substitution trigger date is reached. **ISIN 1** remains ineligible until after the end date of the CA/Income event.
3. **ISIN 1** becomes eligible again after the event is fully executed.
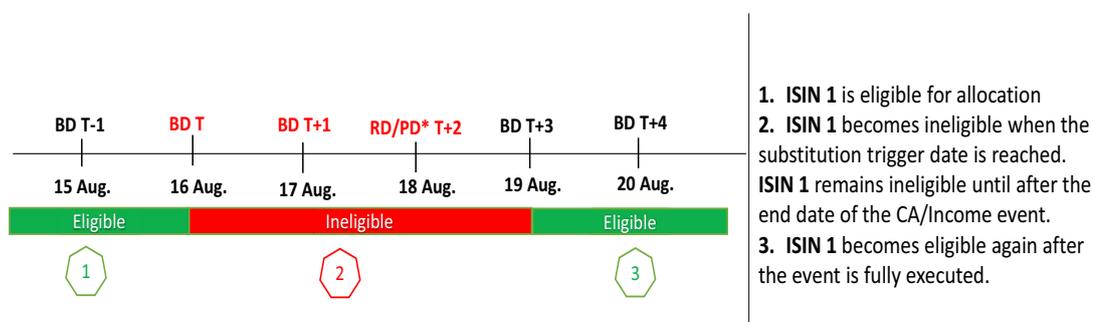
Figure 8-2. CCMS Business Day – Daily ineligibility file received from CDS

Bilateral compensation

Due to the nature of a repo or securities lending transaction, involving an agreement to repurchase or return equivalent securities upon termination of the transaction, the Collateral Giver retains the risk on the collateral securities and is as such entitled to the corresponding returns.

CCMS will attempt to substitute any securities allocated as collateral 2 business days prior to the CA/income event start date. However, if the Collateral Giver (CG) does not have the eligible replacement securities, the substitution will fail, and CG will not be credited with the interest or redemption proceeds. Securities subject to a redemption will no longer have a collateral value in CmaX, while the collateral valuation of the securities subject to interest payments will exclude accrued interests.

The counterparties will handle any obligations to this effect bilaterally, outside the triparty environment.

Reporting

- Collateral Giver
  - The Collateral Shortage Daily Report (CSR) allows CGs to identify unsubstituted positions due to custody events on which they must seek compensation from the Collateral Receiver directly.
- Collateral Receiver
  - Based on relevant arrangements between clients and CDS, CDS informs CCMS clients of upcoming Corporate Actions through a range of reports:

    CCMS clients[1] have the option to receive Corporate Actions information via CDSX Entitlement batch file, Swift ISO 150200 messages, Web based bulletins or CDSX online. In the context of CCMS, the CDSX Entitlement batch file or the Swift ISO 15022 MT564/68 messages are recommended options.

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1. Any CCMS client that is CDS participant probably already subscribes to the batch file or messages.

Corporate actions

CCMS seeks to reduce the operational burden of reconciling corporate action entitlements and the need to operate in a complex corporate action payment tracking for both Collateral Givers and Collateral Receivers.

The key principle applied in CCMS is that the Collateral Giver retains the economic benefit of the securities allocated as collateral. It is the Collateral Giver who is entitled to all income and corporate action proceeds accruing on the collateral securities

9. Connectivity and customer reporting

For a comprehensive overview of instruction and reporting capabilities across the range of connectivity solutions, please refer to the CmaX Connectivity Guide, available on the Clearstream website.

For Clearstream to provide its connectivity and reporting services, including notifications to clients covering any step in the triparty collateral lifecycle from (and not limited to) initiation of transactions and amendments (including client notification status) to execution, clients (including any third parties and attorneys) are required to subscribe to the connectivity and reporting solutions made available. This also includes any set-up requests, granting access rights and ensuring the right recipients receive any notifications sent by Clearstream in a timely manner.

Connectivity

Through Clearstream's communications media, clients have real-time access to enhanced information, instruction input, transaction and position reporting, with a choice of connection via web browser, file transfer and the Swift network:

- **CCMS Web Portal:** A screen-based, user to application (U2A) connectivity channel based on the latest proven portal technology, whose harmonised security and user management enables streamlined client access to a range of services.
- **Xact File Transfer:** Clearstream's portfolio of file transfer connectivity solutions enables clients to automate file delivery and the receipt of report information. Xact File Transfer is available via the internet on a secure website.
- **Xact via Swift:** Enables clients to instruct and receive messages over the Swift network.

Instructions

Clients can use the CCMS Web Portal or the industry standard Swift message type MT527 (Triparty Collateral Instruction) to notify exposure and collateral activities across all the triparty collateral management services.

The receipt by CBL of a Swift MT527 shall, in the absence of an Appendix A duly notified to CBL under the relevant Global Collateral Management Service Agreement, constitute such notification of Appendix A (in addition to the instruction details included in the Swift MT527).

Clients can also choose to instruct via free-format Swift.

The following collateral management activities are supported via the above communication channels:

- New exposure;
- Exposure termination;
- Changing the exposure closing date;
- Changing rate (applicable to TRS exposures only).

CMCS

Reporting

The table in [Figure 9-1](#) below provides an indication of triparty collateral management reports, including their format and availability:

Report name	Format	Collateral Givers/ Receivers	Report content	Additional information about reuse
Daily Exposure Report	PDF + TXT	CG + CR	Exposure details (including margin deficit/excess and a list of allocated collateral)	Yes (For CG only)
Summary Report	PDF	CG + CR	Summary of activity per triparty product; the net exposure and the exposure per counterparty	Yes
Counterparties Summary Report	TXT	CG + CR	Summary of activity per triparty product, with a detailed list of exposures	No
Collateral Shortage Daily Report	PDF + CSV	CG only	Snapshot of fails and deficits on outstanding triparty transactions, as well as the reason for failure	Yes
Real Time Simulation Summary Report	PDF	CG only	Simulation of allocations of exposures based on current holdings or external file	Yes
Real Time Simulation Detailed Report	CSV	CG only	Simulation of allocations of exposures based on current holdings or external file	Yes
Extended Simulation Summary Report	PDF	CG only	Simulation of allocations of exposures based on current holdings or external file with optimisation of existing exposures	Yes
Extended Simulation Detailed Report	CSV	CG only	Simulation of allocations of exposures based on current holdings or external file with optimisation of existing exposures	Yes
Triparty Collateral Management Instruction Status Report	PDF + TXT	CG + CR	Status of same and next day value collateral management instructions requiring matching	Not applicable

Figure 9-1. Overview of triparty collateral management reporting options

10. Event of Default

This chapter outlines the steps to be followed in the case of a default of a triparty collateral management participant and the actions taken by Clearstream upon receipt of a default notice by the affected counterparty.

Note: The default scenarios addressed below are considered in the context of a standard transfer-of-title agreement governed by the GCMSA. For information on the event of default in the context of a different account ownership structure or collateral management service, please contact your Collateral Management Service Team.

Notice of default

In order to launch the event of default process within the Triparty Collateral Management service, the counterparty of the defaulting participant must send a written notice informing Clearstream of the default.

This notice should be sent via written mail, Swift MT599 or a fax signed by two authorised representatives. Clients are highly recommended to contact their Collateral Management Service Team by telephone in order to advise them of the upcoming notification. This will ensure that actions by Clearstream are taken in the shortest time frame.

Event of default - Collateral Giver

Upon receipt of the default notice from the Collateral Receiver, Clearstream will:

- Take no further action on outstanding collateral management or lending transactions involving the defaulting participant.
- Freeze collateral account(s) and stop all intraday collateral movements as soon as practically possible.
- Inform both participants and TMX PTI of such measures.
- If instructed accordingly in the default notice, Clearstream via TMX PTI will transfer the collateral from the relevant collateral account(s) to the Collateral Receiver's main account in CDS for further disposal by the participant. Reused collateral will be included in the transfer of collateral and made available again for reuse if the client's main account is part of the collateral pool. If the main account is not part of the collateral pool, settlement of the transfer of the reused collateral will be subject to successful substitution.

Event of default - Collateral Receiver

Upon receipt of the default notice from the Collateral Giver, Clearstream will:

- Take no further action on outstanding collateral management or lending transactions involving the defaulting participant.

- Freeze collateral account(s) and stop all intraday collateral movements as soon as practically possible.

- Inform both participants and TMX PTI of such measures.

- Request matching instructions from both counterparties, determining whether the Collateral Giver will buy back the collateral securities from the Collateral Receiver or secure ownership of the cash held on his account since the initiation of the repo transaction.

Collateral Givers who wish to exercise their right to repurchase collateral securities in the event of a default by the Collateral Receiver must ensure that both parties, the Collateral Giver and the Collateral Receiver, formally notify CBL of the Collateral Giver's unilateral instruction authority. This notification must be submitted through written correspondence, via Swift MT599 message, or through a fax, and must be duly signed by two authorised representatives. The notification should be formatted according to Appendix D guidelines.

Reuse scenario

In the event that the defaulting party is part of a reuse chain, more than one client may be impacted. The general framework outlined above will be applied, taking into consideration any specificities resulting from the reuse chain.

For further information, please contact your Global Securities Financing specialist.

11. Billing

Collateral management fees

Collateral Givers are charged a monthly servicing fee on the basis of their daily outstanding volumes. The servicing fee is calculated as defined in the CCMS Client Agreement based on the market value[1] of total assets held across collateral accounts. Collateral Receivers do not incur servicing fees on collateral securities.

Note: The servicing fee for a Collateral Receiver reusing collateral as a Collateral Giver will be calculated as above.

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1. Plus accrued interest, where applicable,

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Glossary

Accrued interest

Interest that has been earned on a bond but not yet paid. Typically, interest accrues on a daily basis from the previous coupon date (inclusive) to the value date (exclusive). An investor buying a bond must pay accrued interest to the Collateral Giver.

Agreement

An Agreement represents a relationship between a Collateral Giver and a Collateral Receiver for a given service type with a specific risk profile. The service types are TRS and TCMS.

AutoAssign (AA)

Securities to be transferred between a Collateral Giver's account and a collateral account are selected automatically according to the eligibility criteria set by the Collateral Receiver in Appendix A of the Collateral Management Service Agreement for Collateral Receivers.

CDS

Canadian Depository for Securities Limited

CDS Account

Means an account in a Ledger maintained by CDS for a Participant or for itself and used for Transactions in the Depository Service and the Settlement Service. Each Account may include subaccounts. An account may be:

•Funds Account to record by currency the net amount from time to time owing between CDS and the Participant arising from the Participant's use of the Depository Service and the Settlement Service.

•Securities Account to record Securities held by CDS for the Participant (other than as the result of a Pledge or a Tender) and obligations of the Participant to deliver Securities to CDS, including a General Account.

CmaX

Collateral **ma**nagement e**X**change - the collateral management system of Clearstream Banking Luxembourg (CBL).

Collateral account

An account opened in CBL on behalf of the Collateral Receiver (in the case of transfers of title) or on behalf of the Collateral Giver (in the case of pledges). Collateral accounts are used solely for collateral management transactions.

Collateral Giver

The party to a transaction that provides collateral securities and/or cash to the Collateral Receiver in exchange for securities and/or cash.

Collateral Receiver

The party to a transaction that lends securities and/or cash to the Collateral Giver in exchange for an amount of securities and/or cash that is held and monitored on the collateral account.

CUID

The client unit identifier (CUID) is the four-letter identifying code CDSX® uses for communications between CDS and members of the financial community in Canada.

DVP

Delivery against payment. Simultaneous exchange of securities against cash between accounts.

Eligibility check

An eligibility check is carried out on the proposed collateral securities, including verification that the Collateral Giver complies with the Collateral Receiver's criteria for eligible securities, and confirmation that the assets notified for use in the transaction are eligible for settlement in CDS.

End of day

20:30 EST. End of day reports incorporate the final activity for a particular value date. Any activity after end of day is considered for the next value date.

Exposure

A trade between a Collateral Giver and a Collateral Receiver to be covered by collateral. Exposure details are, for example, an opening date, a principal or a closing date. "Exposure" is a synonym of "trade", "agreement" or "transaction". An exposure can be the result of a repo trade, a securities loan, a cash loan or any other contractual obligation resulting in the delivery of collateral.

FOP

Free of payment. Delivery or receipt of securities between accounts with no cash movement.

Margin

Also referred to as haircut, the difference between the market value of the collateral and the purchase price paid at the start of a repo. Haircuts are applied, to account for credit and liquidity risks that may impact the value of the collateral allocated during the lifecycle of a transaction or during an event of default and collateral liquidation. Whereas a haircut is expressed as a percentage deduction from the market value of collateral (for example, 5%), a margin is the market value of collateral expressed as a percentage of the purchase price (for example, 105%).

Mark-to-market

The daily valuation of securities held in the collateral accounts.

MT527

The Triparty Collateral Instruction Swift message type used by counterparties to an exposure to notify the Triparty Agent (CBL) of various actions to be taken on a collateral management transaction, including deal initiations. This message type feeds automatically and straight through (STP) into CCMS.

MT558

The Triparty Collateral Status and Processing Advice, available in real-time, that reports those collateral transactions whose processing, matching, allegements, allocation or settlement status has changed.

MT599

The free-format Swift message type used by counterparties to a collateral management transaction to notify the Triparty Agent (CBL) of various actions to be taken on a collateral management transaction, including deal initiations.

Notification

Formal notification and triparty collateral instruction to Clearstream Banking of various details relating to a triparty collateral management transaction.

Open exposure

An exposure with no definite term. The Collateral Giver and the Collateral Receiver must agree to and notify Clearstream Banking of the termination date.

Start of day

00:45 EST on settlement date -1. Start of day reports include updated mark-to-market data on all outstanding collateral management transactions.

Substitution

The process by which a Collateral Giver can replace securities allocated to collateral accounts with other eligible securities against via a 2-step conditional FOP transfer.

Sufficiency check

A check carried out on the proposed incoming securities to calculate the nominal amounts of securities required against the exposure. This calculation is based on market prices received from a number of data feeds. The valuation includes the accrued interest to date and the margin requirements agreed between the two counterparties to the transaction.

TMX PTI

TMX Post Trade Innovations Inc.

Value date

The date on which securities are transferred between the Collateral Receiver and the Collateral Giver.

Xact File Transfer

Clearstream's portfolio of file transfer connectivity solutions that enable clients to automate the file delivery of instructions and the receipt of report information. Xact File Transfer is available via the internet on a secure website.

Appendix A. Deadlines

CCMS Business Day

Auto-assign performs collateral management activities within the CDS cash and securities deadlines.

The table below provides details of when these activities are performed.

Operation type	Settlement instruction	Start	End
Initiation			
TRS	Againt Payment	03:30	15:45
TCMS	Free of Payment	03:30	18:00
Increase/decrease of exposure			
TRS	Againt Payment	03:30	15:45
TCMS	Free of Payment	03:30	18:00
Substitution	Free of Payment	03:30	18:00
Deficit/excess adjustment	Free of Payment	03:30	18:00

Client instruction deadlines

The tables below provide details of the lifecycle deadlines per service type.

All these deadlines apply to notifications sent by CCMS Clients via STP communication channels and the CCMS Web Portal. All times are Eastern Standard Time (EST).

Triparty Repo Service (TRS)

Notification type same-day (SD)	Deadline
Initiation	15:45
Increase of exposure	15:45
Decrease of exposure	15:45
Set Close Date	15:45
Rate change	17:30

Triparty Collateral Management Service (TCMS)

Notification type same-day (SD)	Deadline
Initiation	17:30
Increase of exposure	17:30
Decrease of exposure	17:30
Set Close Date	17:30

CMCS

External Valuation file

Notification type same-day (SD)	Deadline
External valuation file	17:30

Appendix B. Sample Default Notice for GCMSA users

(To be completed under client's letterhead)

By Fax to: +352-243-38262

By Swift to: CEDELULL

By Email to: CmaX@Clearstream.com

Attn: Collateral Management Desk

Date: _____

Subject: Default Notice

Dear Sirs,

Reference is made to our Global Collateral Management Service Agreement for

☐   Collateral Giver (GCMSA)   OR   ☐   Collateral Receiver (GCMSA)
        signed _____   signed _____

Pursuant to Article 18.1 of the Side Letter to the Global Collateral Management Service Agreement Collateral Giver
/ Receiver for use in the context of Clearstream Collateral Management Services of CDS Clearing accounts
signed_____ *(date)* we hereby notify Clearstream Banking, S.A. ("Clearstream") of an Event of Default of
_____ *(counterparty name)*.

We request Clearstream to take no further actions in relation to any triparty collateral management services for
Collateral Transaction(s) (the "Relevant Collateral Transactions"):

_____

_____

_____

_____

CMCS

We request Clearstream to proceed, subject to, and under the conditions of the GCMSA, with instructing the Custodian to transfer of Collateral related to the Relevant Collateral Transaction(s) to our CDS clearing account _____.

Yours faithfully

_____
Authorised Signature

_____
Name

_____
Title

_____
Authorised Signature

_____
Name

_____
Title

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Appendix C. Eligible markets for securities

Bonds

Canada

Equites

Canada

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Appendix D. Sample Collateral Giver Unilateral right to instruct (Collateral Giver version)

(To be completed under client's letterhead)

By Registered Mail:

By Swift to: CEDELULL

Attn: Collateral Management Desk

Date: _____

Subject: Collateral Giver's unilateral right to instruct in case of default by the Collateral Receiver

Dear Sirs,

Reference is made to the Side Letter to the Global Collateral Management Service Agreement Collateral Givers for use in the context of CBL Collateral Management Services of CDS Clearing accounts (Side Letter) signed on _____ [Date].

With regards to Collateral Transactions entered with Collateral Receiver _____ [Name].

In case of an event of default of the Collateral Receiver notified to Clearstream Banking, S.A. ("Clearstream") in accordance with Article 18.1 of the Global Collateral Management Service Agreement (GMCSA) as amended under section 4.12 of the Side Letter, we hereby notify and instruct Clearstream to accept unilateral instructions from the Collateral Giver and to send such unilateral instruction by the Collateral Giver to the Custodian for execution pursuant to Article 18.1 of the GMCSA as amended under section 4.12 of the Side Letter, notwithstanding any contrary instructions subsequently received from the Collateral Receiver.

Yours faithfully

_____   _____
Authorised Signature   *Authorised Signature*

_____   _____
Name   *Name*

_____   _____
Title   *Title*

Appendix D. Sample Collateral Giver Unilateral right to instruct (Collateral Receiver version)

(To be completed under client's letterhead)

By Registered Mail:

By Swift to: CEDELULL

Attn: Collateral Management Desk

Date: _____

Subject: Collateral Giver's unilateral right to instruct in case of default by the Collateral Receiver

Dear Sirs,

Side Letter to the Global Collateral Management Service Agreement Collateral Receivers for use in the context of CBL Collateral Management Services of CDS Clearing accounts (Side Letter) signed on _____ [Date].

With regards to Collateral Transactions entered with Collateral Giver _____ [Name].

In case of an event of default of the Collateral Receiver notified to Clearstream Banking, S.A. ("Clearstream") in accordance with Article 18.1 of the Global Collateral Management Service Agreement (GMCSA) as amended under section 4.11 of the Side Letter, we hereby notify and instruct Clearstream to accept unilateral instructions from the Collateral Giver and to send such unilateral instruction by the Collateral Giver to the Custodian for execution pursuant to Article 18.1 of the GMCSA as amended under section 4.11 of the Side Letter, notwithstanding any contrary instructions subsequently received from the Collateral Receiver.

Yours faithfully

_____   _____
Authorised Signature   *Authorised Signature*

_____   _____
Name   *Name*

_____   _____
Title   *Title*

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