MARS Collateral Management: Make the right call.

Bloomberg Terminal

Risk & Valuations

Bloomberg Professional Services

Bloomberg

Contents

Manage collateral, minimize complexity.

The wave of reform that followed the 2008 financial crisis has placed increased emphasis on collateral and highlighted the vitally important role it plays in the market. The amount of collateral required has increased significantly, as has the range of products and market participants covered.

The Bloomberg Terminal® gives you a powerful tool to manage these constantly evolving changes and mitigate counterparty credit risk. MARS Collateral Management is an automated, end-to-end solution that delivers everything you need to manage and monitor exposures and positions and take control in a changing regulatory landscape.

Broad product coverage

If you can price a product on the Bloomberg Terminal®, you can manage its associated collateral. With product coverage across multiple asset classes, including equities, fixed income, commodities and FX, MARS Collateral covers the vast majority of derivatives.

Powerful analytics

Leveraging the power of Bloomberg market data, front-office pricing calculators and communication tools, MARS Collateral contains an extensive suite of metrics including configurable IB, collateral risk and an in-system reconciliation tool.

Bloomberg Multi-Asset Risk System (MARS)

OMS integration

- Buyside (AIM)
- Sellside (TOMS)
- Third-party OMS

Pricing & Data

- State of the art models
- Cross-asset library
- Contract creation
- Valuations
- Real-time & snapshot data

Front office risk

- Intraday pricing & greeks
- EOD & on-demand risk reports
- P&L Explain
- What-if trade analysis
- Pre-Trade Margin
- Scenarios & stress testing
- Portfolio Margin calculations
- Lifecycle management
- Projected & stressed Cashflows
- Regulatory analytics (PRIIPs, SIMM)
- Excel derivatives & mortgages toolkits

Market risk

- Full revaluation VaR & expected shortfall
- Greek sensitivities
- Historical, hypothetical & predictive stress tests
- Tracking error & relative risk statistics
- FRTB regulatory capital
- Buy & sellside regulatory reporting
- Pre & post-trade analytics for all risk measures

Credit risk

- Portfolio, obligor & obligation analysis
- Early warning/outlier identification
- Credit scorecards & benchmarking
- Default probability with term structure
- Model-implied CDS
- Loss Given Default & Recovery
- Knowledge date & as-of date analytics

XVA

- Valuation adjustments for OTC derivatives incl CVA, DVA, FVA, MVA & KVA
- Counterparty credit risk exposure metrics (PFE)
- Regulatory capital calculations (SA-CCR)
- XVA/PFE pre-trade analytics – position what-if and CSA what-if
- XVA sensitivities

Hedge accounting

- US GAAP & IAS/IFRS
- Micro, Macro & Last-of-layer method
- Cash flow, Fair value & Net investment hedge types
- Monthly reporting includes: valuations, single security CVA/DVA adjustments, scenarios & settlement cash flows

Collateral management

- **Legal documentation management**
- **Dispute management**
- **Portfolio margin calculations & workflow (IM & VM)**
- **Automated messaging**
- **Initial margin Calculations (SIMM, CCP IM)**
- **In system reconciliation**
- **Risk analytics**

MARS API

- Programmatic access
- Cross-asset data snapshot
- System integration
- Custom reporting

Navigate a changing industry.

Posting high-quality assets such as cash and bonds as collateral against derivatives exposures is a long-standing credit mitigation technique used by most sell-side and larger buy-side firms. In the lightly-regulated derivatives space, collateral management was carried out in silos as a back-office function. Since the introduction of regulation designed to increase transparency and reduce systemic risk in the financial industry, firms have begun to consolidate their operations with the aim of managing their collateral process more holistically and efficiently.

Operational and regulatory challenges

The transition has been accompanied by sizeable challenges, with firms required to address new questions over where their collateral is held, how it can be optimized, what action to take when they do not have eligible collateral immediately to hand and how to independently calculate their derivative and collateral valuations using market-standard pricing models. Bloomberg's MARS Collateral Management solution directly addresses these issues.

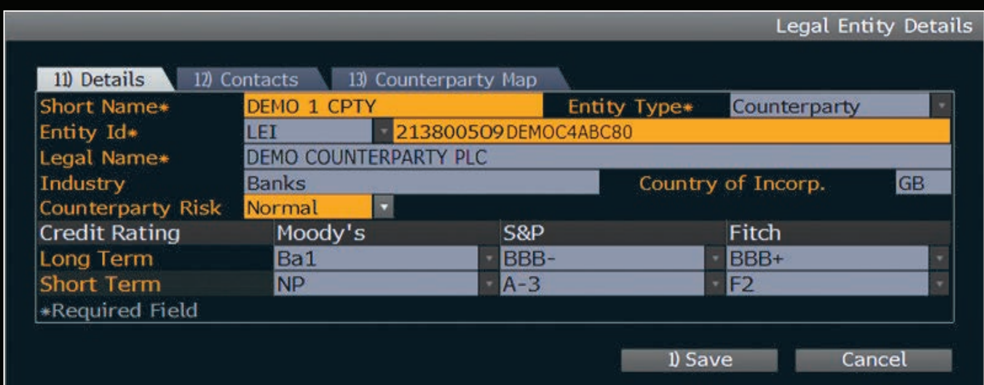
	Challenge	Bloomberg solution
Complexity	Collateral Management is becoming increasingly complex, exposing risks on fragmented infrastructure and manual processes.	Calculates, aggregates and displays margin calls across products and legal entities. Built in calculators, including ISDA SIMM and grid approach.
Volume	Total outstanding collateral in the market is expected to dramatically increase.	Segregates collateral positions by agreement in distinct portfolios to ensure accurate record keeping.
Frequency	The number of margin calls is expected to significantly increase.	Enables you to: • Manage collateral agreement details • Define the frequency and timing of margin calls • Monitor all margin events • Automatically send and receive margin calls via an electronically generated message
Tracking	Firms must have a holistic view into their inventory to ensure proper allocation and optimization of collateral.	Allows you to track your exposures, collateral positions and agreement terms in real-time. If a counterparty defaults, you know exactly how much collateral you hold for recovery.

Access powerful functionality.

MARS Collateral Management is a multi-product, multi-asset collateral management and straight-through processing hub, incorporating powerful tools such as Bloomberg RecStation, RSTN <GO>, for portfolio reconciliation, Bloomberg data for risk analytics and Acadia technology for electronic messaging. All these tools are fully integrated into the Bloomberg Terminal and its wider suite of risk management solutions.

Component	Functionality
Legal Entity & Documentation Manager LEDO <GO>	• LEDO allows users to enter and monitor terms and conditions of their legal collateral agreements (e.g., CSAs)
Exposure Management BCOL <GO>	• Independent valuations for both initial and variation margin (regulatory compliant) • Netting set creation • Bloomberg reference data to value collateral
Margin and Dispute Management	• Margin call management • Eligibility and sufficiency monitoring • Dispute management
Risk Analytics	• Scenario Analysis • SIMM Backtesting • SIMM Pre-Trade
Electronic Messaging	• Automated communication of margin calls via Acadia or email (MSG)
Portfolio Reconciliations	• Proactive portfolio reconciliations

Legal entity management



Legal Entity Details
LEDO <GO>

Manage your legal entities on LEDO using up-to-date entity information such as LEI, legal name, industry and credit rating.

Legal documentation management

**Collateral
Agreement Details**

LEDO stores all terms relevant to margin management – valuation and timings; thresholds and regulatory compliant independent amounts/initial margins; eligibility criteria and interest terms; product coverage.

Margin call management

**Collateral
Call Management**

Use BCOL to manage your day-to-day margin call process, including sending margin calls, booking collateral, managing disputes and interest payments.

Trade management

Seamless integration

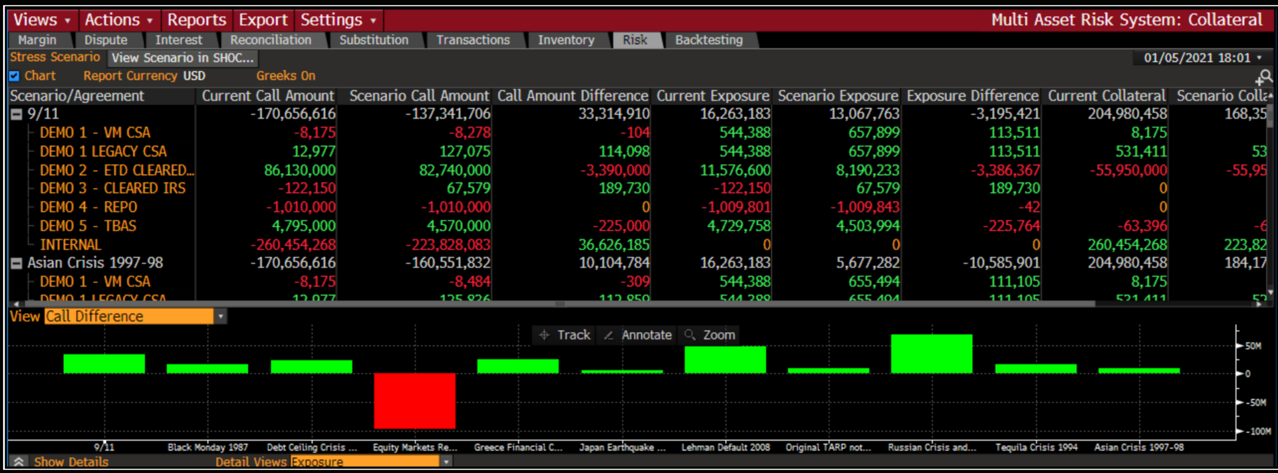
BCOL provides direct links to trading systems, which allows you to access details of specific collateralized trades.

Communications management

Seamless messaging

Connect to counterparties and internal colleagues through BCOL, using MSG, IB, FTP and automated margin messaging.

Risk analysis



Scenario Analysis

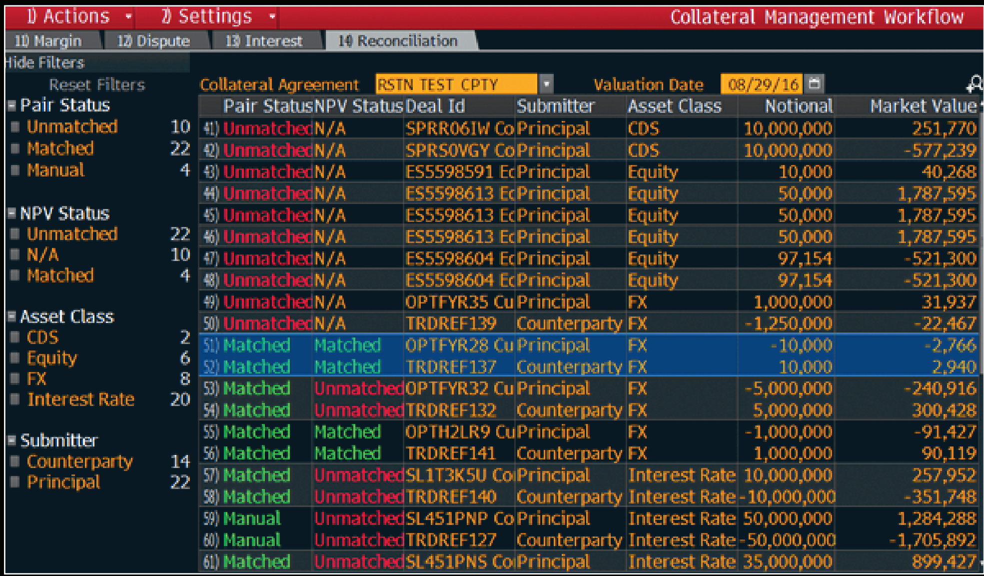
Project margin calls to monitor potential obligations to withstand market disruption.

Regulatory initial margin requirements

ISDA licensed vendor for SIMM

Calculate end of day, pre-trade and support SIMM backtesting.

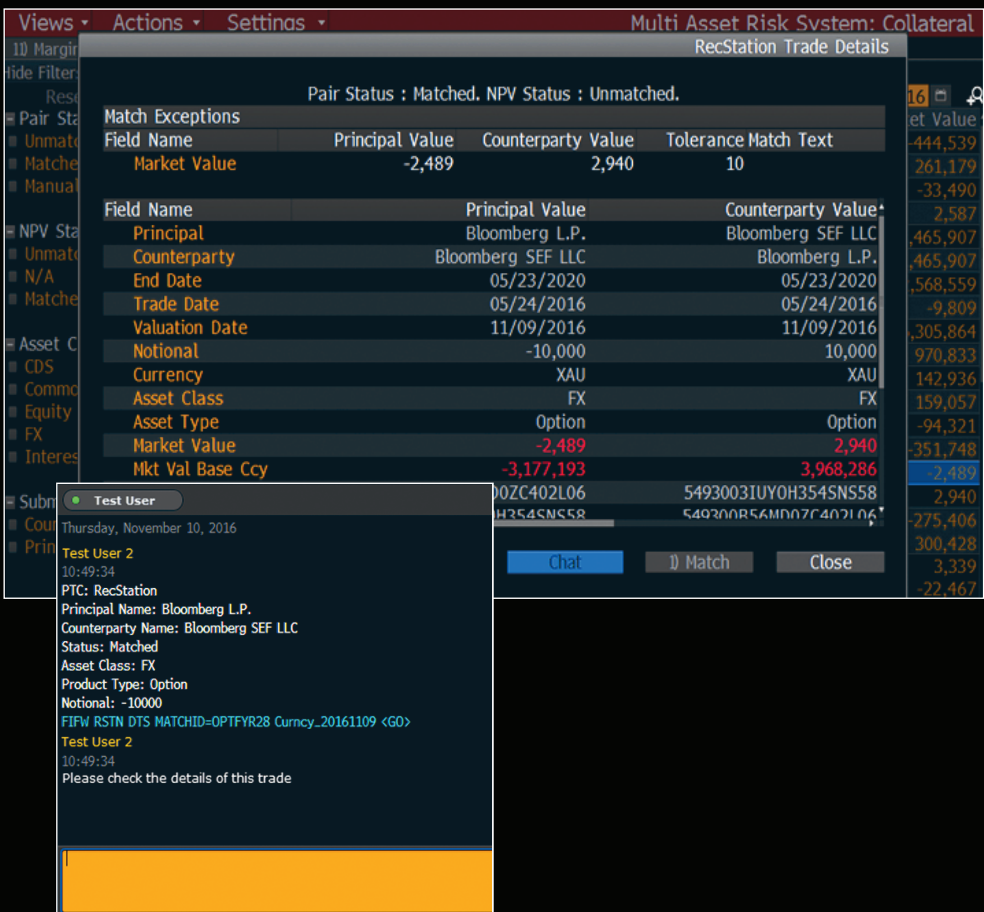
Portfolio reconciliation



Portfolio reconciliation

Integrated portfolio reconciliation tool that allows the user to quickly identify and manage any discrepancies between the user's and their counterparty's portfolios.

Identify & communicate mismatches



Identify & communicate mismatches

Communicate reconciliation results with counterparties and internal colleagues using the built-in IB messaging tool.

Connect to a holistic solution.

MARS Collateral is built on Bloomberg's Multi-Asset Risk System risk engine, providing a truly holistic, one-stop solution for collateral management. MARS consolidates positions from individual securities pricers, such as SWPM, OVME, OVML, CDSW and DLIB, into easy-to-manage portfolios. The MARS pricing engine calculates the valuations on these positions, enabling users to run many different types of risk calculations and analytics.

Valuations are fed to MARS Collateral at a portfolio level and then run through a comprehensive margin calculation process, netting valuations and collateral positions at the collateral agreement level. Users are provided with an event workflow to easily send and receive margin calls, track disputes, settle interest and reconcile their positions with counterparties. The entire, end-to-end process takes place on the Bloomberg Terminal – eliminating the need to log-in to and manage several disparate applications.

MARS Collateral Management connects you to:

Real-time data

- Derivative and collateral positions are valued with accurate and up-to-date data
- All exposures and positions are calculated using market-leading Bloomberg data, avoiding the need to buy-in and integrate external resources

Your documentation

- Collateral documentation is captured field-by-field to ensure accurate calculation of margin calls
- LEDO <GO> holds collateral eligibility criteria and haircut schedules, thresholds, minimum transfer amounts and initial margin requirements

The market

- Auto-filled Bloomberg legal entity information and agency credit ratings in LEDO <GO> help provide real-time mitigation of credit risk
- Gain direct access to the latest market data, company news CN <GO> and trading systems (e.g., Swap Manager, SWPM <GO>)

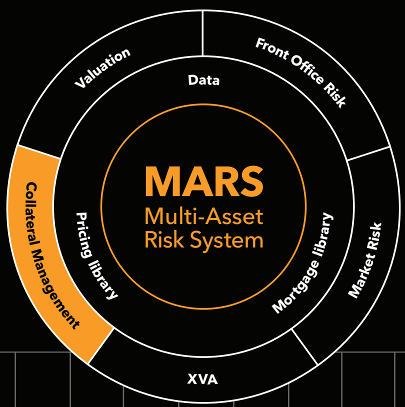
Risk Analytics

- Calculate ISDA SIMM, SIMM backtesting and SIMM-pretrade analysis
- Run scenario analysis across your agreements to proactively manage counterparty risk

The financial community

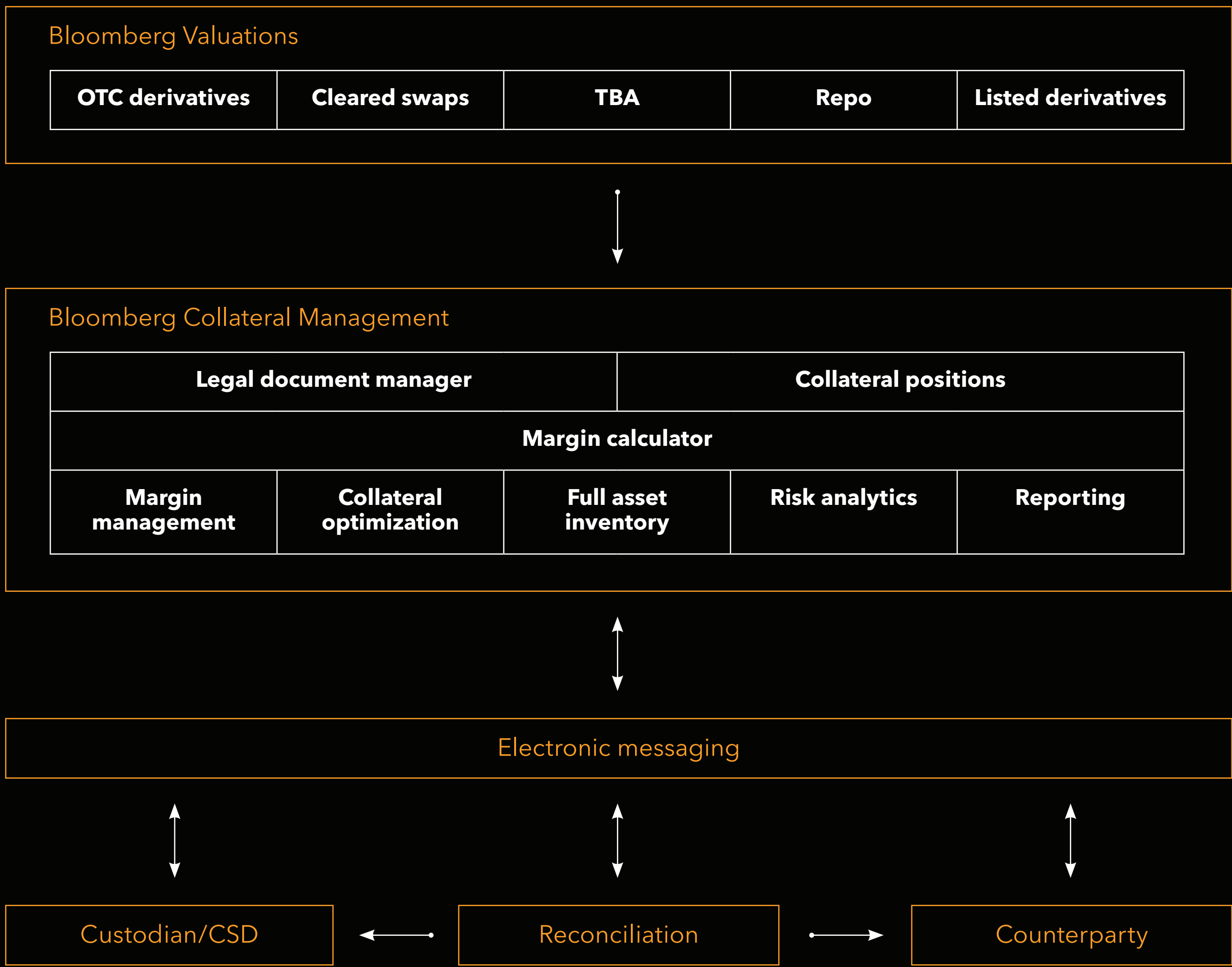
- Communicate with internal colleagues and external counterparties via Bloomberg's chat and email tools, IB and MSG
- Easily add trade information to an IB chat and send it to internal or external parties, the so-called 'Security Pill' feature

MARS Multi-Asset Risk System



The Multi-Asset Risk System provides consistent and consolidated valuation, product lifecycle analysis, market risk, counterparty risk and collateral management.

MARS is powered by Bloomberg's world-class pricing library, market data and mortgage cash flow engine and enables front-office, risk and collateral professionals to analyze their trading and investment portfolios, mitigate risk and prepare for the unexpected.



Learn more

To learn more about Bloomberg's risk solutions, visit **RISK <GO>** on the Bloomberg Terminal or contact us at riskinfo@bloomberg.net.

Take the next step.

For additional information, press the <HELP> key twice on the Bloomberg Terminal®.

Beijing
+86 10 6649 7500

Dubai
+971 4 364 1000

Frankfurt
+49 69 9204 1210

Hong Kong
+852 2977 6000

London
+44 20 7330 7500

Mumbai
+91 22 6120 3600

New York
+1 212 318 2000

San Francisco
+1 415 912 2960

São Paulo
+55 11 2395 9000

Singapore
+65 6212 1000

Sydney
+61 2 9777 8600

Tokyo
+81 3 3201 8900

bloomberg.com/professional