



Simple. Transparent. Cleared.  
The Future of Swaps™

# Eris Exchange Overview

Transparency | Anonymity | Capital Efficiency

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# Eris Exchange Overview

## Futures Exchange – Interest Rate Swap Futures

- Product replicates the cash flows associated with collateralized OTC interest rate swaps
- A known regulatory and operational framework
  - Designated Contract Market (DCM)
  - Settled and margined by CME Clearing as a futures contract
- Daily settlement values determined by the independent CME Clearing IRS-curve
- Highly capital efficient – **up to 95% margin off-sets** (Starting March/April 2012)
- Distribution via 60+ CME Clearing Firms allows access to new swaps liquidity



2011 Innovation Award  
for Product Design by a  
North American Exchange

## Product Offering

- USD interest rate swap futures with plain-vanilla transaction terms; date and rate flexibility
- Spot and forward starting contracts remain outstanding until maturity
- Benchmark contracts supported with streaming executable quotes from dedicated liquidity providers
  - Includes 2, 5, and 10 year spot and IMM dated forward starting contracts
  - Forward starting contracts have pre-determined fixed coupons and trade in NPV terms eliminating the need for post-trade compression

# Live Quotes on Benchmark Contracts

Operational Today with Executable, Transparent Prices for Exchange Traded Interest Rate Swap Futures

**Eris Interest Rate Swap Futures: Benchmark Contracts**

Benchmark Contracts	Pay Fixed		Receive Fixed		Last Updated 2012 Jan 10
	Size Best (Total)	Rate/NPV	Rate/NPV	Size Best (Total)	
<b>Spot Starting Futures</b>					
2-year	225 (350)	0.653%	0.659%	325 (350)	10:11:50 AM
5-year	250 (250)	1.213%	1.219%	125 (250)	10:12:11 AM
10-year	55 (105)	2.113%	2.118%	55 (105)	10:12:33 AM
<b>IMM Dated Forward Starting Futures</b>					
Mar 21 2012 – Mar 21 2014 0.750%	200 (300)	\$ -1,600	\$ -1,450	200 (300)	10:12:12 AM
Mar 21 2012 – Mar 21 2017 1.500%	100 (170)	\$ -10,600	\$ -10,350	100 (170)	10:12:30 AM
Mar 21 2012 – Mar 21 2022 2.250%	50 (100)	\$ -7,700	\$ -7,200	50 (100)	10:12:33 AM
<b>Invoice Spread, Eris Futures Leg</b>					
Mar 30 2012 – Nov 15 2018	100 (150)	1.672%	1.677%	100 (150)	10:12:34 AM

Depth: Mar 21 2012 – Mar 21 2017 1.500%				
Pay		Receive		
Size	Rate/NPV	Rate/NPV	Size	
100	\$ -10,600	\$ -10,350	100	
50	\$ -10,700	\$ -10,250	50	
20	\$ -10,950	\$ -9,950	20	

Market Depth  
5yr March IMM

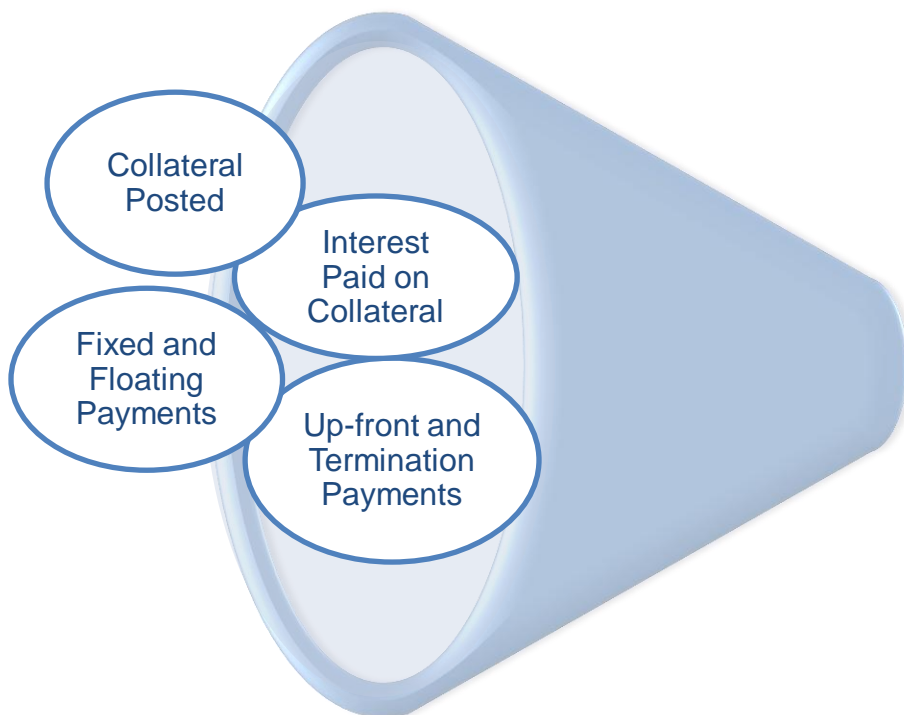
Streaming quotes  
from dedicated  
liquidity providers

Trades execute  
and clear instantly  
at CME Clearing

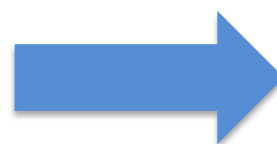
Recent snapshot from: [www.erisfutures.com](http://www.erisfutures.com)

# Unique Design 'Futurizes' Interest Rate Swaps

## Collateralized OTC Interest Rate Swaps



 Eris Exchange  
The Future of Swaps



Variation  
Margin

- Replicates cash flows associated with collateralized interest rate swaps
- Consolidation of all cash flows into a single stream, and reflected in a single price allows swap exposure to be traded and cleared as a futures contract
- Unique, patent-pending product design 'futurizes' collateralized plain vanilla OTC swap exposure

# Economics of Eris Futures Contracts

$$100 + A + B - C = \text{Eris Futures Price}$$

*Example: 10-year \$100mm Eris contract initiated 4 months ago (i.e., 100 contracts)*

↓	↓	↓	↓	↓	↓	↓
	\$1,250,000	\$120,000		\$1,000		
100	+ 1.25	+ 0.12	-	0.001	=	101.3690

Index Price	+	Swap NPV	+	Historical Fixed and Floating Amounts	-	Eris PAI™	=	Settlement Value
Facilitates pricing based on \$100 face amount		Equivalent to NPV of an analogous OTC swap		Past fixed and floating swap payments; Calculated once daily		Accumulated interest paid on variation margin Accrues at Fed Funds Rate based on NPV; Calculated once daily		Value used to facilitate bookkeeping through existing futures systems

# Easy & Cost Effective Interest Rate Swap Exposure

## Open Access

- Traditional futures market open to participants via 60+ existing FCMs
- No ISDA Agreements required; standard futures documentation

## Capital Efficiency

- Margin offsets of up to 95% with listed futures at CME Clearing
- More efficient than discretely calculated Independent Amount for each new trade

## Liquidity & Anonymity

- Order book with streaming quotes for benchmark contracts
- Trade and unwind with any counterparty
- Ability to trade blocks anonymously through brokers

## OTC Swap Economics

- Mirrors risk profile and cash flows associated with collateralized OTC Interest Rate Swaps
- Flexible contracts: any rate, any date

## Simple Integration

- Easy to get started: trading screen provided by Eris Exchange
- Open APIs, with leading ISVs integrating into Eris SwapBook
- Utilizes existing clearing processes for post-trade allocations

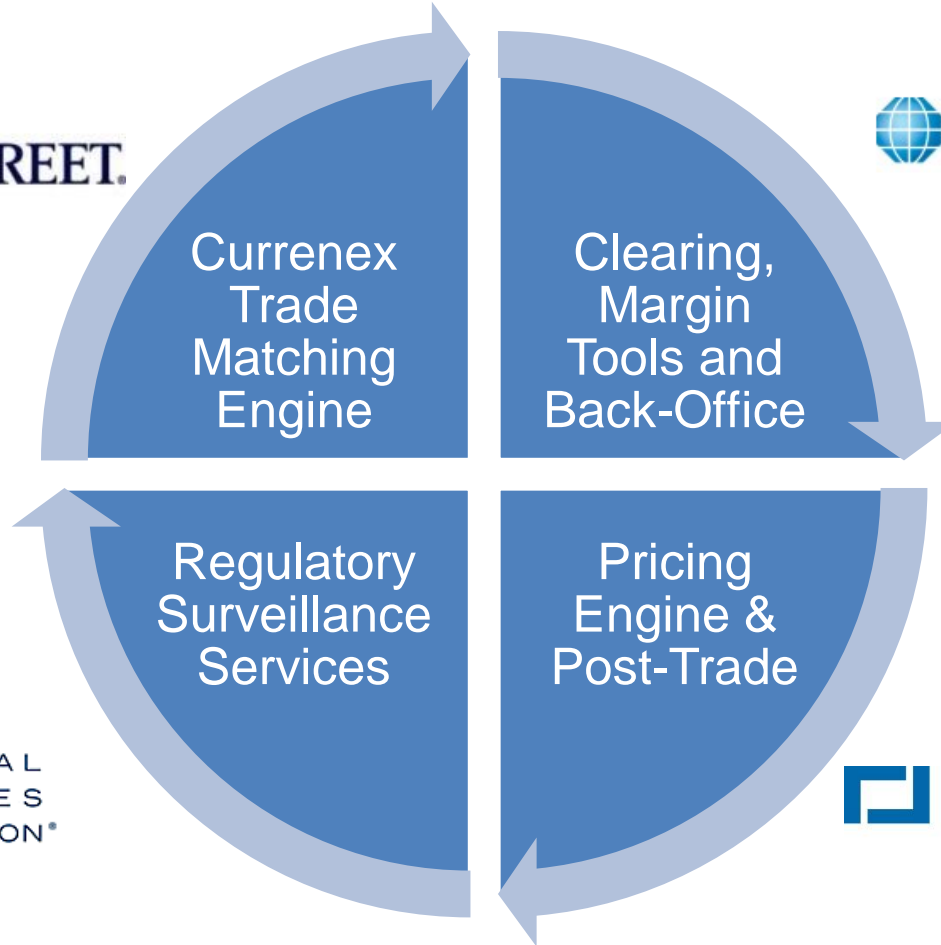
## Compression

- Fixed coupon contracts eliminate the need for post-trade compression
- Ability to unwind with any counterparty facilitates 'clean up' trades to shrink portfolios

# Integrated World Class Platforms



STATE STREET.



 **CME Group**

 **NATIONAL  
FUTURES  
ASSOCIATION®**

 **Eris Exchange**  
The Future of Swaps

# Flexible Execution Alternatives

## Eris BlockBox™

### Voice

- Ability to Maintain Bi-lateral Relationships
- Block Trading Capability
- Competitive Block Thresholds
- Odd Contract Dates and Fixed Rates
- Efficient Spread Trading

## Eris SwapBook™

### Electronic

- All-to-All Markets
- Attractive to Buy Side Firms
- Competitive Execution
- Transparency of a Central Limit Order Book
- Algorithmic Trading
- Spread and Curve Trading

## Eris Exchange Offers Both Futures and OTC Style Trading

### Both Venues Feature:

- Trading anonymity
- Ability to trade in and out of positions with any counterparty
- Support by dedicated liquidity providers

# Off-Exchange and Voice Execution

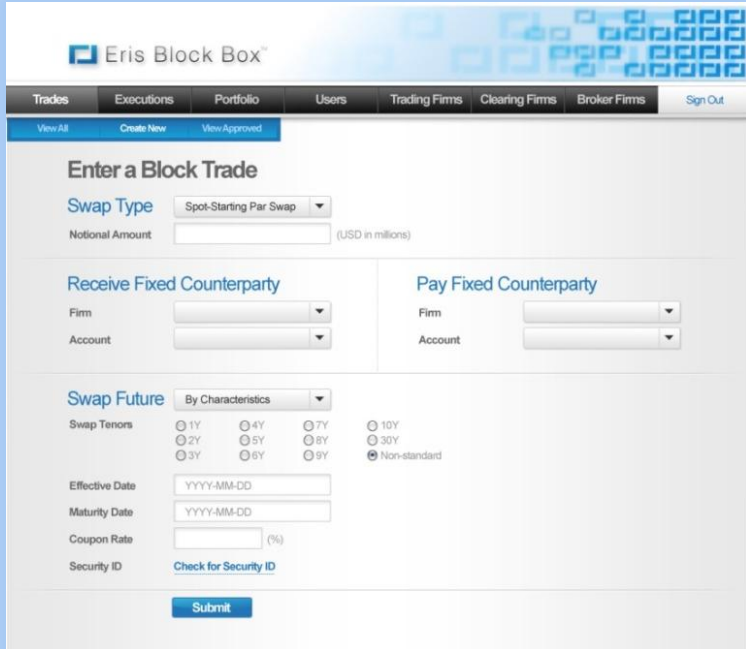
- Voice executed trades are supported above the block level and for EFPs & EFRs
- Immediate credit check for all off-exchange and brokered trades
- Eris BlockBox is a web interface for trade reporting

## Block Trade Thresholds

Initial Maturity	Minimum Block Size
Less than 5 Years	<b>\$50M and above</b>
5 Years or More	<b>\$25M and above</b>

- *15 minute block reporting requirement*
- *Counterparties are not publicly reported*

 Eris BlockBox™



The screenshot displays the Eris BlockBox web interface. At the top, there is a navigation bar with tabs for Trades, Executions, Portfolio, Users, Trading Firms, Clearing Firms, Broker Firms, and Sign Out. Below the navigation bar, there are buttons for View All, Create New, and View Approved. The main section is titled 'Enter a Block Trade'. It includes a 'Swap Type' dropdown menu set to 'Spot-Starting Par Swap', a 'Notional Amount' input field with '(USD in millions)' text, and two columns for 'Receive Fixed Counterparty' and 'Pay Fixed Counterparty', each with 'Firm' and 'Account' dropdown menus. Below these is a 'Swap Future' section with a 'By Characteristics' dropdown and radio buttons for tenors: 1Y, 2Y, 3Y, 4Y, 5Y, 6Y, 7Y, 8Y, 9Y, 10Y, 30Y, and Non-standard. There are also input fields for 'Effective Date' and 'Maturity Date' (both in YYYY-MM-DD format), a 'Coupon Rate' input field with a percentage sign, and a 'Security ID' field with a 'Check for Security ID' link. A 'Submit' button is at the bottom.

# Significant Capital Efficiencies

## Capital Efficiency for Trading Firms

- As a DCM, positions are held in customer segregated 4d accounts
- Margin is calculated by CME using 5-day HVaR
  - Allows for flexible portfolio margining
- Highly capital efficient; 85% to 95% margin off-sets
  - U.S. Treasury futures and Eurodollar futures in March/April 2012

## Capital Efficiency for FCMs

- Trades backed by the flagship \$92b CME Clearing futures guarantee fund
- No additional capital contributions to separate guarantee funds to clear
- Lower required capital reserve due to lower customer Initial Margin requirements, and preferable treatment under Basel III as a cleared derivative



## Clearing Margin

Maturity	Pay Fixed Margin	Received Fixed Margin
2yr	0.3%	0.5%
5yr	1.0%	1.5%
10yr	2.8%	4.0%

Margin levels shown as a % of notional as of February 1, 2012

# Leverages CME Clearing Post-Trade Tools



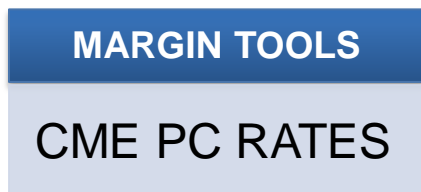
## Pre-Trade, Post-Trade and Allocations

- Participants can utilize existing futures give-up framework and agreements used for more than 20% of US futures volume
- Allocate trades using CME Give Up System
- Manage agreements with the FIA Electronic Give-Up System (EGUS)



## Average Pricing

- Clearing firms, brokers and asset managers can take multiple fills across different prices and re-price them to a single level
- CME Average Pricing System (APS)



## CME Clearing Margin Tools

- Clearing firms and customers can independently verify initial margin amounts on actual and simulated portfolios with the CME PC RATES application

# Access Provided by CME Clearing Firms

- Over 60 CME Clearing members are eligible to support participants
- Clearing Firms must maintain minimum capital of \$50 million in order to clear
- HVaR margin methodology and the CME IRS Swap Curve are used
- **Bold names:** Registered to clear or are in the process of certifying

<b>ABN AMRO CLEARING CHICAGO LLC</b>	FCSTONE LLC	MITSUBISHI UFJ SECURITIES USA INC	RBC CAPITAL MARKETS LLC
ADM INVESTOR SERVICES INC	FOREX CAPITAL MARKETS LLC	MIZUHO SECURITIES USA INC	RBS SECURITIES INC
ALLIANZ GLOBAL INVESTORS DIST. LLC	GAIN CAPITAL GROUP LLC	MORGAN KEEGAN & COMPANY INC	RJ OBRIEN ASSOCIATES LLC
AMERIPRISE FINANCIAL SERVICES INC	GLOBAL FUTURES & FOREX LTD	MORGAN STANLEY & CO INCORPORATED	ROSENTHAL COLLINS GROUP LLC
BARCLAYS CAPITAL INC	GOLDMAN SACHS & CO	MORGAN STANLEY SMITH BARNEY LLC	SANFORD C BERNSTEIN & CO LLC
BGC FINANCIAL LP	GOLDMAN SACHS EXEC. & CLEARING LP	NATIXIS SECURITIES NORTH AMERICA INC	SANTANDER INVESTMENT SEC. INC
<b>BNP PARIBAS SECURITIES CORP</b>	HSBC SECURITIES USA INC	NEUBERGER BERMAN LLC	<b>STATE STREET GLOBAL MARKETS</b>
<b>BNY MELLON CLEARING LLC</b>	INSTINET LLC	<b>NEWEDGE USA LLC</b>	STEPHENS
CANTOR FITZGERALD & CO	INTERACTIVE BROKERS LLC	NOMURA SECURITIES INTERNATIONAL INC	TD AMERITRADE INC
CIBC WORLD MARKETS CORP	JP MORGAN CLEARING CORP	OANDA CORPORATION	TENCO INC
CITADEL SECURITIES LLC	JP MORGAN FUTURES INC	OPPENHEIMER & CO INC	TIMBER HILL LLC
CITIGROUP GLOBAL MARKETS INC	JP MORGAN SECURITIES LLC	OPTIONSXPRESS INC	TRADESTATION SECURITIES INC
CREDIT SUISSE SECURITIES (USA) LLC	LPL FINANCIAL CORPORATION	PRUDENTIAL BACHE COMMODITIES LLC	UBS FINANCIAL SERVICES INC
DAIWA CAPITAL MARKETS AMERICA INC	MACQUARIE FUTURES USA INC	RAND FINANCIAL SERVICES INC	UBS SECURITIES LLC
DEUTSCHE BANK SECURITIES INC	<b>MERRILL LYNCH PRO. CLEARING CORP</b>	RAYMOND JAMES & ASSOCIATES INC	WELLS FARGO SECURITIES LLC

# Eris Exchange Fees per Contract

	Fees Quoted per Side	
Tenor	Fee (\$ cost per side)	Fees (implied per annum bps)
2 Years	\$10	0.06
5 Years	\$18	0.04
10 Years	\$24	0.03
30 Years	\$48	0.02

- Eris Exchange fees are based on tenor buckets
- Each futures contract side is \$1mm face
- Fees are charged per side (both the buyer and the seller) per contract and include the fees of CME Clearing

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New York, NY 10006

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# Appendix

# Trades Like a Swap...

Swap

Quoting Conventions	<ul style="list-style-type: none"><li>• Par trades: Rate</li><li>• Unwinds and Contracts with Pre-defined Fixed Rates: NPV</li><li>• Pay fixed: Bid / Buy</li><li>• Receive fixed: Offer / Sell</li></ul>
Trade Terms	<ul style="list-style-type: none"><li>• Effective Date: Any good business day out to 10 years</li><li>• Termination Date: Up to 30 years following the Effective Date</li><li>• Fixed Payments: Semi-annual, 30/360</li><li>• Floating Payments: Quarterly, Actual/360</li><li>• Adjustment to Period End Dates</li><li>• Contract stays open until maturity</li><li>• New York and London Calendars; London only for LIBOR fixing</li></ul>
Index	<ul style="list-style-type: none"><li>• 3 Month LIBOR</li></ul>
Market Sensitivity	<ul style="list-style-type: none"><li>• Same DV01 as an OTC swap</li></ul>
Return on Posted Margin	<ul style="list-style-type: none"><li>• Overnight Fed Funds; analogous to interest earned on collateral posted under a Credit Support Annex (CSA)</li></ul>

# ...Clears as a Future

Future

Booking Value for Par Swap	<ul style="list-style-type: none"><li>• NPV 0 = 100</li><li>• Futures price captures all contract cash flows</li></ul>
Cash Flows Prior to Termination Date	<ul style="list-style-type: none"><li>• Initial margin based on CME Clearing HVaR methodology</li><li>• Daily settlement using CME Clearing's independently determined swap curve</li></ul>
Terminal Value	<ul style="list-style-type: none"><li>• Accumulated fixed and floating payments</li><li>• Price Alignment Interest over life of the swap (Eris PAI™)</li></ul>
Documentation	<ul style="list-style-type: none"><li>• Simple one-time account set-up documentation; No ISDAs</li></ul>
Unwind Counterparty	<ul style="list-style-type: none"><li>• All market participants</li></ul>
Counterparty Credit Risk	<ul style="list-style-type: none"><li>• CME Clearing acts as counterparty on all trades</li></ul>
Market Access	<ul style="list-style-type: none"><li>• Any market participant through 60+ active FCMs at CME</li></ul>
Capital Efficiency	<ul style="list-style-type: none"><li>• As a DCM: Margin offsets with other CME futures reducing initial margin by up to 95% (2012)</li></ul>
Credit Checks	<ul style="list-style-type: none"><li>• Real-time credit checks; No Fails</li></ul>
Lot Size	<ul style="list-style-type: none"><li>• 1 contract represents \$1,000,000 notional</li></ul>

# Unique Product Features

- Futures contracts from inception to maturity; contracts are never considered an OTC swap
- Contracts remain open until maturity; no quarterly rolls
- Contracts are created dynamically upon execution of a new trade
- Z codes are unique identifiers created for each trade
- Credit controls occur pre-trade and there are no fails in the order book and/or RFQ functions
  - “Click-and-Done” means that trades are cleared concurrently with execution

The screenshot displays the 'Trade Ticket' window for Eris Exchange. The window title is 'Trade Ticket' and the Eris Exchange logo is at the top. The trade ID is 'TRADE TICKET - A20110420003800'. The interface is divided into several sections:

Party:	ER_ErisTaker2	User:	ER_ErisTaker23
Counter Party:	ERISHUB	User:	erisbank
Trade For:	ER_ErisTaker2	Trade Time:	11 Feb 2011 19:13:02 GMT

Issue	USD 2Y IRS	Pricing Method	Esp Order
Action	Pay Fixed	Effective Date	02/15/2011
Notional	1MM	Quantity	1MM
Z code	ZA000220130215	Maturity Date	02/15/2013
CTI Code	1	Origin	1

Fixed Leg		Floating Leg	
Fixed Rate	0.924 %	Index Rate	3M LIBOR
Day Count	30/360	Fixing Date	T -2
Pay Frequency	Semi Annual	Day Count	Act/360
Business Day Convention	Modified Following	Pay Frequency	Quarterly
Business Days	NYC, LDN	Business Day Convention	Modified Following
		Business Days	NYC, LDN

Status: ACTIVE      Is Aggressor: Yes

Buttons: Print, PDF, Show Order, Close

# Eris Exchange Legal Notices

Version Created 2012-2-1

Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade. All references to options refer to options on futures.

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