

# Doing data differently





## Company Overview

**Helping the global financial community make informed decisions through the provision of comprehensive, accurate, timely and affordable securities and economic data services**

With more than 30 years' experience, we offer comprehensive and accurate securities reference, corporate actions and pricing data for derivatives, equities, fixed income, and investment funds around the globe. We also cover economic data extensively.

We understand how crucial financial and economic data is and take a different approach as to how we proceed:

- We do not rent data, we sell it
- We do not have onerous redistribution rules
- We customize our services to meet your needs
- We cover all countries – no matter how large or small
- Finally, we offer competitive prices

As a result of our on-going commitment to providing cost-effective and innovative data solutions, while ensuring the highest standards, EDI has achieved the internationally recognized quality and security certifications ISO 9001 and ISO 27001.

Headquartered in the United Kingdom, we have operations in Australia, Canada, Germany, India, Morocco, South Africa, and in the United States.

Our Support Team is available on +44 (0) 207 324 0020, 24 hours a day, Monday to Friday and are closed on Christmas and New Year's Day.



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## Introduction to Options Analytics Service

The Options Analytics Service uses daily updates and historical data to provide end-of-day analytics and reference data for U.S and international exchange-listed options on equities, exchanged traded funds (ETFs), equity indexes, and futures. The service can be used to run back tests simulation of trading strategies, generate risk and regulatory reports on portfolios of options and underlying securities, perform in depth analysis of options positions. Accounting firms can also use the service to calculate the amount of dividend equivalent payment and delta test for the IRS Section 871(m).

## Coverage and End-of-Day Pricing

- Coverage: Over 10 million options and futures contracts and 10,000 issuers
- Options: Pricing for U.S and international exchange-listed equity, ETFs, index, and futures options.
- End-of-day composite pricing includes open, high, low, close, volume and open interest. NBBO bid/ask quotes are snapped at the close of the market.
- Underlying: Pricing for equities, ETFs, indexes, and futures with exchange- listed options. End-of-day composite pricing includes open, high, low, close, and volume. Composite bid/ask quotes are snapped at the close of the market.

## Options Analytics

### End-of-Day Options Sensitivities

- End-of-Day composite pricing includes open, high, low, close, volume and open interest. NBBO bid/ask quotes are snapped at the close of the market.
- Pricing for equities, ETFs, indexes, and futures with exchange-listed options. End-of-Day composite pricing includes open, high, low, close and volume. Composite bid/ask quotes are snapped at the close of the market.

### Standard Greeks: End-of-day Options Sensitivities

The standard Greeks include the more well-known option sensitivities listed below: Details can include bid and ask calculations.

- Delta: Sensitivity of options price with respect to underlying price.
- Gamma: Sensitivity of options Delta with respect to underlying price.
- Vega: Sensitivity of options price with respect to implied volatility.
- Theta: Sensitivity of options price with respect to time (per day).
- Rho: Sensitivity of options price with respect to interest rate.

Additional calculations available upon request and specification.

Spot rate to expiration

## Implied Volatilities

The implied volatilities are also available, which can be used to build an implied volatility surface.

- Closing implied volatilities
- Price-Relative (moneyness) Surfaces: Strike relative to underlying price (100 = at the money)
- Delta-Relative Surfaces: Call-equivalent delta (50 = at the money)

## Interpolated Volatility Surfaces

The implied volatilities in the previous section are used to build interpolated volatility surfaces.

- Interpolate volatilities uses closing implied volatilities
- Price-Relative (moneyness) Surfaces: Strike relative to underlying price (100 = at the money)

## Historical Volatilities

- Time series periods from 10 days up to 180 days
- Close to Close historical volatilities time series
- Open-High-Low-Close historical volatilities time series, which take into account the underlying opening price jumps and drift.

## Options Pricing Model

- Industry Standard Partial Differential Equations (PDE) Model for European and American Options.
- Term structure of interest rates calculated from US Treasury bond prices.

## Reference Data

- Options contract reference data including contract identifier, options type (put or call), expiration date, strike price, exercise style (American or European), and contract size.
- Underlying security reference data including security identifier, ticker, issuer name, security type (equity, ETF, Index, Futures)
- Historical discrete dividends including ex dates and dividend amounts
- Corporate actions for options and underlying equities
- Options contract history (including underlying security, deliverable units, strike multipliers) are retained when a corporate action results in an options contract adjustment
- A unique identifier is assigned to each security and remains unchanged through contract adjustments and corporate actions such as stock splits and ticker/name changes.

## The Options Analytics Service's Implied Dividend Yield and Implied Borrow Rate

In addition to implied volatilities and Greeks, the Options Analytics Service also provides implied dividend yields and implied borrow rates derived from US and International exchange-listed options on stocks, ETFs, and equity indexes.

### Key Features

For each options expiry, the implied dividend yields and implied borrow rates are derived so as to satisfy put-call parity for European-Style options or maintain consistent implied volatility surfaces for American-Style options. Time-series of constant maturity implied dividend and borrow curves are available for maturities spanning 30, 90, 180, 360 days or longer into the future. Term structure of implied forward prices calculated using the implied dividend yields and borrow rates are available.

### Key Benefits

Based on extensive coverage of US and International markets of exchange-listed options on stocks, ETFs, and equity indexes. End-of-day and historical time-series available. Security master that includes discrete dividend data and updates for corporate actions are used to support the calculations.

### Applications

Custodian banks and asset managers can use the implied borrow curves to manage risk, make informed decisions on how to manage their equity financing costs. Long term traders and securities financing desks can use the implied borrow curves to determine what financing rates look like 30, 90, 180, 360 days or longer into the future. Hedge funds can use the implied dividend and borrow curves create and back-test alpha generating trading strategies.

## Full Options Analytics File Specification

Field	Data Type	Description
Market Close Date	DATE	Market Close Date (YYYYMMDD)
Contract Name	VARCHAR[32]	OCC Options Contract Symbol
Contract Code	VARCHAR[32]	Internal Contract Symbol
Root Symbol	VARCHAR[16]	Options Root Symbol
Ticker Symbol	VARCHAR[16]	Underlying Ticker Symbol
Issuer Name	TEXT	Underlying Issuer Name
Underlying ISIN	TEXT	Underlying ISIN
Security Type	VARCHAR[32]	Underlying Security Type (e.g. Equity, Index, ETF, Futures)
Currency	VARCHAR[3]	Currency
Country	VARCHAR	Country
Exchange Name	TEXT	Name of the Exchange where options trade
Exchange Code	VARCHAR[16]	Code of the Exchange where options trade
Expiration Date	DATE	Options Expiration Date (YYYYMMDD)
Days to Expiration	INTEGER	Number of days from market close date to option expiration
Contract Size	INTEGER	Contract size
Put Call Indicator	VARCHAR[1]	"C" for call and "P" for put
Exercise Style	VARCHAR[1]	"A" for American and "E" for European
Strike	FLOAT	Options Strike Price
Underlying Price	FLOAT	Underlying Price
Moneyness	FLOAT	Moneyness of the option (Strike/Underlying Price)
Delta	FLOAT	Delta of the option
Implied Vol	FLOAT	Implied volatility

## Delta File Specification

Field	Description
Underlying ISIN	ISIN of underlying security
Underlying Security Type	Equity, Index, ETF, Futures
Underlying Ticker Symbol	e.g. AAPL (stock), SPX (index), ZG(futures), SPY (ETF)
Issuer Name	Underlying issuer name
EDI Series Code	e.g. XCBOA1OC2017012027.5
Exchange Contract Code	e.g. A17AKC027500
Exchange Name	ICE Futures U.S.
Currency	Listed currency (e.g. USD)
Call Put Indicator	"C" for call and "P" for put
Expiration Date	contract expiration date
Strike	contract exercise price
Exercise Style	"A" for American and "E" for European
Contract Size	Contract size
Date	Pricing date
Option Price	Options mark price

Underlying Price

Underlying close price

Delta

Option delta

## Delta File Specification

The Interpolated file includes all the fields for the standard Implied Volatilities, and the field listed below.

Field	Data Type	Description
Interpolated Vol	FLOAT	Interpolated volatility

## List of Exchanges

Country	Country Code	Exchange Code	Country	Country Code	Exchange Code
Australia	AU	XASX	United States of America	US	AMXO
Belgium	BE	XBRU	United States of America	US	ARCX
Brazil	BR	BVMF	United States of America	US	BATS
Canada	CA	XMOD	United States of America	US	C2OX
Switzerland	CH	EUCH	United States of America	US	EDGX
Germany	DE	XEUR	United States of America	US	GMNI
Denmark	DK	XCSE	United States of America	US	MCRY
Spain	ES	XMRV	United States of America	US	MPRL
Finland	FI	XHEL	United States of America	US	OPRA
France	FR	XPAR	United States of America	US	XASE
United Kingdom	GB	IFEU	United States of America	US	XBOX
Greece	GR	XADE	United States of America	US	XBXO
Hungary	HU	XBUD	United States of America	US	XCBO
India	IN	XBOM	United States of America	US	XISE
India	IN	XNSE	United States of America	US	XMIO
Italy	IT	XMIL	United States of America	US	XNAS
Japan	JP	XOSE	United States of America	US	XNDQ
Korea, Republic of	KR	XKRX	United States of America	US	XNYS
Mexico	MX	XEMD	United States of America	US	XPHL
The Netherlands	NL	XEUE			
Norway	NO	XOSL			
Russia	RU	MISX			
Sweden	SE	XSTO			
Singapore	SG	XSES			
Thailand	TH	TFEX			
Ukraine	UA	UKEX			



## Customization

EDI is proud to offer the most effective and efficient solutions tailored to meet each individual customer's needs. We offer a range of customization options including:

- Delivery-based solutions to complement existing client infrastructure.
- Content provided at the geographical or portfolio holding level.
- Feeds containing particular formats, field content and integrated client level data items.

EDI uses its extensive data research expertise to source, scrub and integrate new client specified data items with existing products and services. For instance, a request from a multinational investment bank to source the DR universe and map it against its underlying share portfolio ultimately led to the development of EDI's successful Depositary Receipt Database.

In addition, EDI was the first vendor to successfully launch an ISO 15022 Corporate Action Messaging feed. This enables customers to reduce costs and increase efficiency by removing the need for multiple feed handlers.

## Support

### Customer Support

**Monday - Friday**  
**Open 24 hours**

**Saturday**  
Support Coverage ends 8am  
(GMT)

**Sunday**  
Support Coverage resumes at  
11pm (GMT)

**Support Coverage is not  
available**  
Saturday 8am to Sunday 11pm

**Call +44 207 324 0020**

Email: [support@exchange-data.com](mailto:support@exchange-data.com)

Customer support is closed Christmas and New Year's Day.

We aim to acknowledge all queries within an hour of receipt and answer queries within 24 hours where possible.

We will send a progress report if a query is not resolved within that time-frame. We resolve around 95% of customer queries within 24 hours.

All queries sent to our Support department are filtered and dispatched to the relevant department. An IT staff member is engaged in the communication process to resolve complicated technical issues.

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