SPIDERROCK

Data & Analytics

Historical Product Overview

Robust historical market data and analytics enabling our clients to gain insights and make data-driven decisions

FEATURES

- Datasets support all US-listed Equities, Futures, Equity Options, and Options on Futures
- End-of-day files, intraday snapshots as well as tick data available with corresponding reference data
- Options-specific data includes implied volatility, Greeks, surfaces, risk slides, and short-term trade performance
- Enhanced analytics used by wide range of practitioners providing insights on market trends
- Underlying prices, size, volume, prints, open interest and reference data

COMPETITIVE ADVANTAGE

Clients can focus on developing strategies by leveraging our analytics. SpiderRock is a respected brand in calculating implied volatility, greeks, risk metrics, and fitting volatility surfaces.

- Fast incubation of new trading strategies
- Model market volatility and relative market movement
- Assess risk and margin requirements
- Evaluate trade cost analysis (TCA)
- Run portfolio evaluation and manage end-of-day marks

QUALITY

Our historical data is derived from the live data and analytics which powers the SpiderRock trading system and ensures a high level of accuracy and consistency.

- Represents market activity at point-in-time
- Cleaned and well documented
- Evaluated for validity and accuracy to minimize errors
- Statistical analysis on our data to verify completeness

USE CASES

CLIENT TYPES

Trading Community

Risk & Compliance Administration

Regulators & Research Community

APPLICATIONS

Create, back-test, incubate, and optimize trading strategies
Trade cost analysis (TCA)

Portfolio management risk identification
Model market volatility and relative market movement
Replay market patterns

Compliance reporting

Identify market trends
Academic research purposes

SPIDERROCK

SpiderRock Data Liberator API For Historical Data

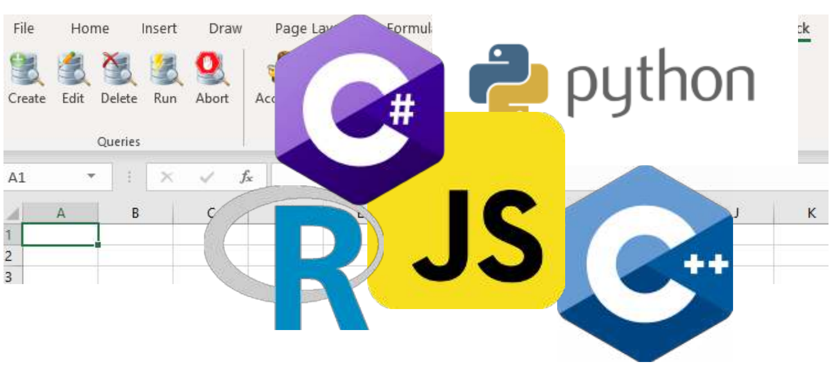
The SpiderRock Data Liberator Service provides easy access to historical datasets using a Restful API

Unlock your productivity and increase your efficiency when using historical data. Data delivery is on demand – how and when you prefer. The Liberator API allows you to select the data you need by date ranges and times, by single or groups of ticker symbols.

Using the API reduces the need to download and store large data sets during your research process and allows you to focus your efforts on performing the analysis and not managing the data. Through our Liberator API you can access SpiderRock Options, Stock and Futures data within your own applications using our cloud, compute power and pre-optimized query access for a simple monthly fee (*).

API FEATURES

- Single data access API for historical time series data; point-in-time and time series
- Datasets support all US-listed equities, options and indexes
- Historical data queries from our cloud storage
- No need to download and maintain large options market historical datasets
- Allows users to easily include data directly into algorithms
- Multiple language support / Native-language APIs and Spreadsheet plug-in



SpiderRock Liberator API comes with starter codes and notebooks for different languages that enable users to get started quickly. On-line help and security index tables allow fast look up of information.

The API is also integrated with Microsoft Excel™ for those with work processes involving downloading specific data and analyzing this data in spread sheet applications.

(*) Various data access plans; tiered based on number of queries or monthly data egress up to unlimited access. Contact SpiderRock Data Sales at gwtsales@spiderrock.net to start you free trial today.

Data Liberator functionality is provided by CloudQuant (www.cloudquant.com).

PRODUCT OFFERING

DATA TABLES	FREQ	HISTORY	PRICE	VOLUME	SIZE	GREEKS	IMPLIED VOL	VOL SURFACE
STOCK								
Stock Close Marks	EOD	Jan-10	X	X	X			
Stock Minute Bars	1 Min	Jan-10	X	X				
Stock Print Set	Trades	Jan-16	X	X	X			
Stock Imbalances Data	Every Tick	Feb-19	X	X				
EQUITY OPTIONS								
Options Close Marks	EOD	Jan-10	X	X	X	X	X	X
Options Price History ID	30 min	Jan-15	X	X	X	X	X	X
Options Price History HID	5 min	Jan-20	X	X	X	X	X	X
Options Minute Bars ATM	1 min	Jan-20	X				X	
Options Print Set	Trades	Jan-14	X	X	X	X	X	X
US FUTURES INDEXES, ETF, INDEX OPTIONS								
Futures Close Marks	EOD	Jan-19	X	X				
Futures Minute Bars	1 Min	Jan-16	X	X				
Futures Print Set	Trades	Jan-16	X	X	X			
Options (F) Close Marks	EOD	Jan-10	X	X		X	X	X
Options (F) Price History ID	30 min	Jan-15	X	X	X	X	X	X
Options (F) Price History HID	5 min	Jan-20	X	X	X	X	X	X
Options (F) Minute Bars ATM	1 min	Jan-20	X				X	
Options (F) Print Set	Trades	Jan-14	X	X	X	X	X	X
Option Pair Set ID ES								
OPTIONS VOLATILITY SURFACES								
Surface Curves EOD	EOD	Jan-10	X			X	X	X
Fixed Grid Surface EOD	EOD	Jan-10					X	X
Fixed Term Surface ATM EOD	EOD	Jan-10					X	X
Surface Curves ID	10 Min	Jan-19	X			X	X	X
Fixed Grid Surface ID	10 Min	Feb-19					X	X
Fixed Term Surfaces ATM ID	10 Min	Jan-18					X	X
VOL2G EQUITY OPTIONS VOLATILITY BUNDLE								
Stock Close Marks	EOD	Jan-10	X	X				
Options Close Marks	EOD	Jan-10	X	X	X	X	X	X
Options Fixed Grid Surfaces	EOD	Jan-10					X	X
Options Fixed Term Surfaces ATM	EOD	Jan-10					X	X
Volatility History Table by Ticker	EOD	Jan-10	X	X		X	X	X
Equity Reference Tables	EOD	Jan-10	X	X				

EQUITY REFERENCE TABLES

Ticker Defintion Map (Security ID)	Daily PIT	Jan-10						
Security Price Table (Adjusted)	Daily PIT	Jan-10						
Global Rates	Daily PIT	Jan-10						
Trading Dates	Daily PIT	Jan-10						

Samples available by request. Contact gwtsales@spiderrock.net

SPIDERROCK

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SOLUTIONS FOR INSTITUTIONAL CLIENTS

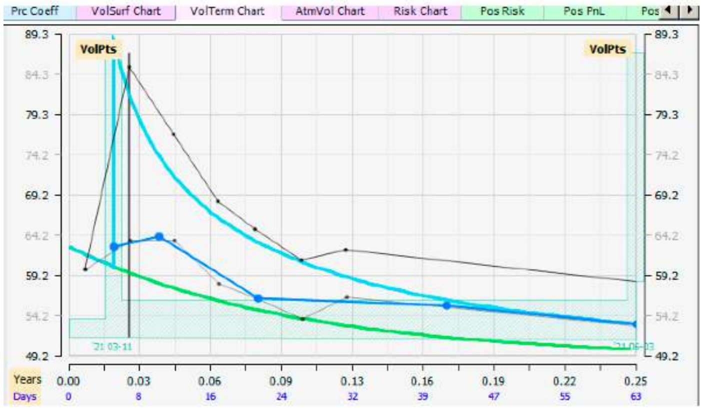
SPIDERROCK

Historical Volatility Surfaces

The Analytics Database for U.S. Stock & Equity Options Pricing and Volatility

Using data collected and archived from our real-time trading platform, SpiderRock continually computes dynamic implied volatility surfaces for all option expiration months with live market quotes. The surfaces reflect a SpiderRock best fit of current markets and update when market conditions change.

Surface data is used by volatility traders to better understand and identify opportunities in skew and relative option value. Curves can be used to historically compare implied versus realized volatility or cross asset implied volatility over short- and long-term time horizons.



KEY DIFFERENTIATORS

Access via cloud-based API | Fitted volatility surfaces | Add-on intra-day data

HISTORICAL VOLATILITY SURFACES

Surface Curves files contain prices, implied volatility with and without earnings effects and volatility surfaces

- Each curve record contains the spline parameters for the shape of a surface
- Records backing each surface represent a two-dimensional curve with strikes in the X-axis expressed as multiples of At-The-Money (ATM) volatility
- Surfaces stored in curve records are optimized to fit between option bids and asks across all strikes in the market

Fixed Grid Surfaces (Skew Surfaces) files contain implied volatilities sampled across a range of constant maturity terms and delta strikes

- Records contain a grid of volatilities on a fixed set of expirations and theoretical delta strikes interpolated from the fitted volatility curves with expected earnings volatility removed
- Each record contains prior period implied volatilities at fixed delta skew points and several constant maturity terms

Fixed Term Surfaces ATM files contain ATM implied volatilities across a range of fixed terms

- Records contain ATM volatility (ex-earnings) term structure and skew slopes across a standardized range of days-to-expiration
- Records contain implied estimates of earnings moves
- Stored in single rows with 12 columns corresponding to the ATM volatilities for fixed term expirations
- Includes information to allow for interpolation of the ATM volatility affected by earnings releases for any time to expiration

USE CASES

- Create, back-test, optimize trading strategies
- Identify market trends, support academic research
- Portfolio management, risk identification, compliance reporting

ADD-ON DATA

Gain access to additional tick data on demand:

- Intraday option quotes and analytics (5 min intervals)
- Daily option and stock print data with implied volatility metrics
- Daily stock price and volume information

STAY COMPETITIVE WITH SPIDERROCK

HISTORICAL VOLATILITY SURFACES

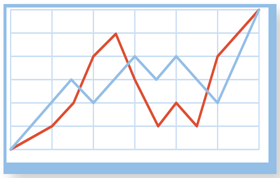
DATABASES	FREQ	HISTORY	PRICE	VOLUME	SIZE	GREEKS	IMPLIED VOL	VOL SURFACE
OPTIONS VOLATILITY SURFACES								
Surface Curves EOD	EOD	Jan-10	X			X	X	X
Fixed Grid Surface EOD	EOD	Jan-10					X	X
Fixed Term Surface ATM EOD	EOD	Jan-10					X	X
Surface Curves ID	10 Min	Jan-19	X			X	X	X
Fixed Grid Surface ID	10 Min	Feb-19					X	X
Fixed Term Surfaces ATM ID	10 Min	Jan-18					X	X

INDIVIDUAL / ADD-ON TABLES

DATA TABLES	FREQ	HISTORY	PRICE	VOLUME	SIZE	GREEKS	IMPLIED VOL	VOL SURFACE
STOCK								
Stock Close Mark	EOD	Jan-10	X	X	X			
Stock Minutes Bars	1 Min	Jan-10	X	X				
Stock Print Set	Every Trade	Jan-16	X	X	X			
Stock Imbalance	Every Tick	Feb-19	X	X	X			
OPTIONS								
Options Close Mark	EOD	Jan-10	X	X	X	X	X	X
Options Price History ID	5 Min	Jan-19	X	X	X	X	X	X
Options Price History ID	30 Min	Jan-15	X	X	X	X	X	X
Options ATM Minute Bars	1 Min	July-20					X	
Options Print Set	Every Trade	Jan-14	X	X	X	X	X	X

FLEXIBLE DELIVERY

Customized daily file or bulk downloads from our data lake



Visualize the data via SpiderRock's Chart Tool or other software

Subscription access to the most current time series datasets via excel, python, mysql, etc.

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SOLUTIONS FOR INSTITUTIONAL CLIENTS

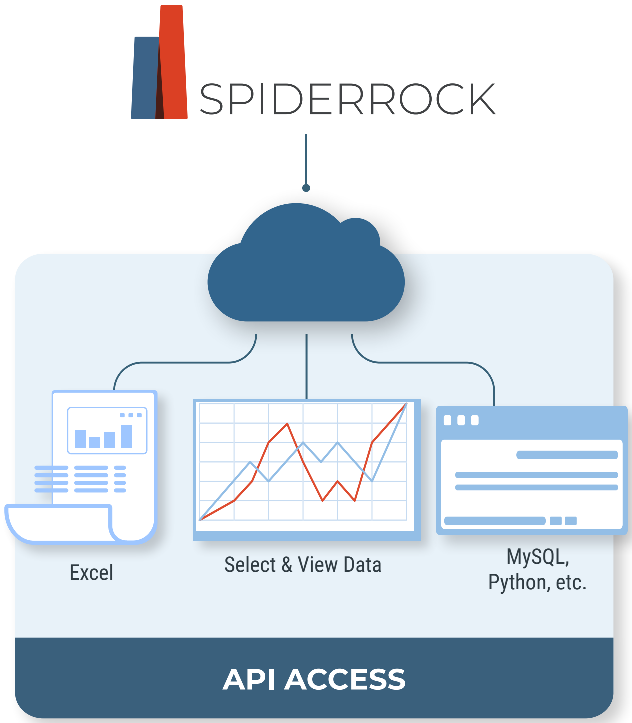
SpiderRock VOL2G

The Analytics Database for U.S. Stock & Equity Options Pricing and Volatility

Out of our real-time trading platform, SpiderRock delivers a comprehensive volatility database and suite of extended data products designed to meet the needs of institutional and academic researchers who depend on high quality historical volatility analytics

KEY DIFFERENTIATORS

- Access via cloud-based API
- Fitted volatility surfaces
- Add-on intra-day data



VOL2G COVERAGE

VOL2G has everything you need for high quality research and analysis

Data Scope

- Over 10 years of historical EOD data for all U.S. exchange traded equity options, indexes, ETFs, ADRs
- Bid/Ask option pricing, volume, open interest
- Underlying stock open, high, low, close prices

Analytics

- Calculated bid/ask implied volatility & surface prices with Greeks
- Multi-point at-the-money smoothed constant maturity curves
- Skew curves and estimated at-the-money skew slopes

Insights

- Implied earnings estimates and historical earnings moves
- Censored implied volatility smoothed to remove event volatility
- Backtest-ready with daily returns and supporting reference data security ID, industry codes and corporate action adjustments

USE CASES

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STAY COMPETITIVE WITH SPIDERROCK

VOL2G DATABASE BUNDLE

DATABASES	FREQ	HISTORY	PRICE	VOLUME	SIZE	GREEKS	IMPLIED VOL	VOL SURFACE
VOL2G DATABASE BUNDLE								
Stock Open, High, Low, Close	EOD	Jan-10	X	X	X			
Option Price History	EOD	Jan-10	X	X	X	X	X	X
Option Skew Surfaces and Slopes	EOD	Jan-10	X			X	X	X
ATM Constant Volatility Surfaces	EOD	Jan-10	X			X	X	X
Equity Reference Tables	EOD	Jan-10	X	X				

INDIVIDUAL / ADD-ON TABLES

DATA TABLES	FREQ	HISTORY	PRICE	VOLUME	SIZE	GREEKS	IMPLIED VOL	VOL SURFACE
STOCK								
Stock Close Mark	EOD	Jan-10	X	X	X			
Stock Minutes Bars	1 Min	Jan-10	X	X				
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Options Close Mark	EOD	Jan-10	X	X	X	X	X	X
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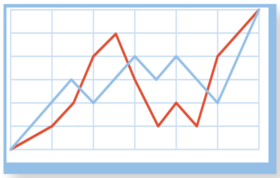

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