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.

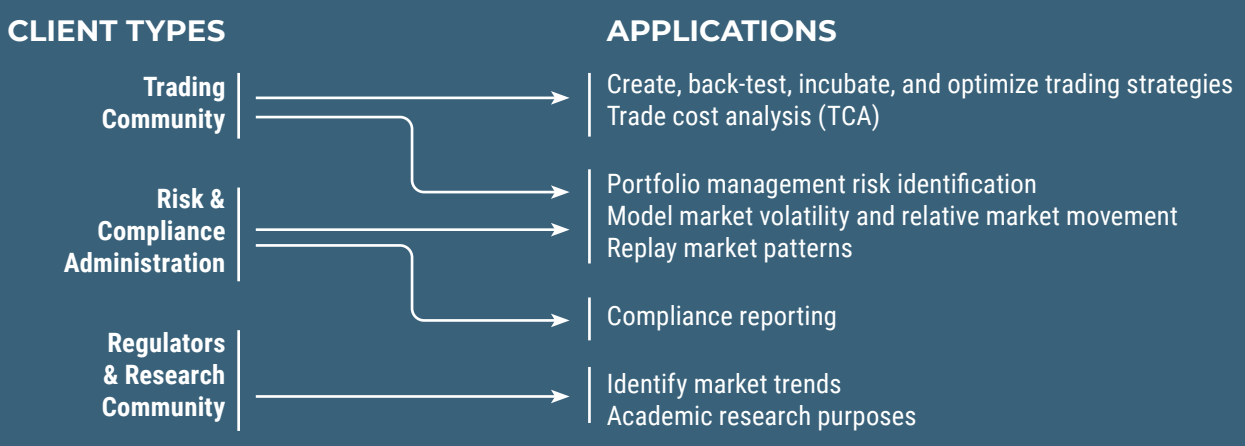
- Fast incubation of new trading strategies
- Model market volatility and relative market movement
- Assess risk and margin requirements
- Evaluate trade cost analysis (TCA)
- Run portfolio evaluation and manage end-of-day marks

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



SPIDERROCK

SpiderRock Data Liberator API For Historical Data

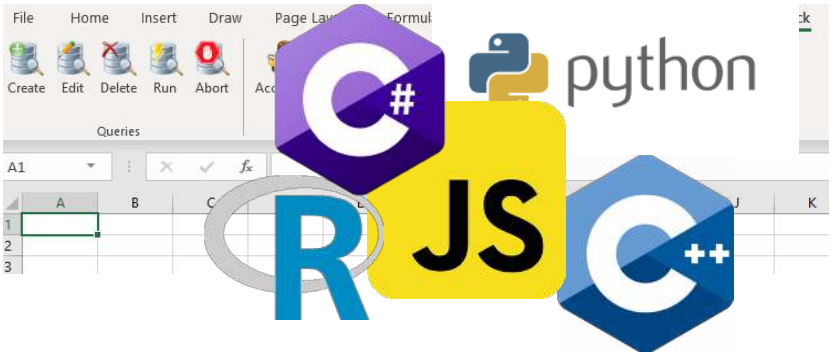
The SpiderRock Data Liberator Service provides easy access to historical datasets using a Restful API

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				

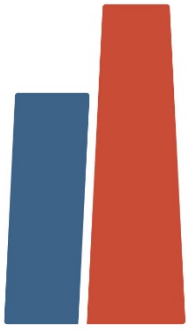
EQUITY REFERENCE TABLES								
Ticker Defintion Map (Security ID)	Daily PIT	Jan-10						
Security Price Table (Adjusted)	Daily PIT	Jan-10						
Global Rates	Daily PIT	Jan-10						
Trading Dates	Daily PIT	Jan-10						

Samples available by request. Contact gwtsales@spiderrock.net

SPIDERROCK

SpiderRock
300 S Riverside Plaza, Suite 2350
Chicago, IL 60606

Phone: 312-256-9600
gwtsales@spiderrock.net
www.spiderrock.net



SPIDERROCK

GATEWAY

SpiderRock Historical Data Archive

Options Hist Reference

Version 1.0

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Overview

Introductory Comments

This document outlines the historical data that is available from SpiderRock, what the various data tables contain, and how they can be delivered. In most cases, the data is extremely large and can take a large amount of disk space and considerable time to download.

We do offer a number of different options, including both historical and periodic updates, to deliver this data to you in the most efficient manner depending on your own individual requirements.

Available Data

Note: A version of all files also exists for major INDICES only, which include:

- Stocks/Tickers: SPY, QQQ, IWM, DIA, VXX, VIX, SPX
- Options: VXX, VIXW, VIX, SPY, SPXW, SPX, QQQ, QNE, QN4, QN3, QN2, QN1, NQ, IWM, EW4, EW3, EW2, EW1, E4C, E4A, E3C, E3A, E2C, E2A, E1C, E1A, DIA BTC, ES, EW

Post 2021-01-01, Futures data includes only CME products.

Options (Equity/Futures/Index)

Table Name	From (Start Date)	Summary Description
Option Closing Marks	1/1/2010	Option Closing Mark records are created immediately after the market close and when exchanges publish official marks. These records contain closing quotes and prices as well as markup details for all outright options. SpiderRock includes their own algorithms that create estimates of the correct theoretical price, creating the SpiderRock closing mark.
Options Intraday ID	09/16/2014	Option Pair Set records are created every 30 minutes/ 5 minutes while option markets are open from 8:55 A.M. to 3:15 P.M. They contain underlying, call, and put details for each outright option strike. They also contain SR surface volatilities, prices, and greeks.
Option ATM Minute Bars	01/01/2019	Option 10 Minute Bar records are created once every 10 minutes for all option markets. Data included in this set includes high/low values, close data, dividend information, and volatility data.
Option Print Set ID	1/31/2014	Option Print Set records contain every option print along with quote, surface, and SR probability details at print time. These records also contain T+1M and T+10M forward mark details. These records are created for every print at the time of print and are published to the SpiderRock elastic cluster 10 minutes later when T + 10M forward marks are available.

Support Files

Table Name	From (Start Date)	Summary Description
Ticker Defintion Hist Map	1/1/2010	Ticker Definition records exist for all SpiderRock tickers including equity tickers (stocks and ETFs) as well as index tickers and synthetic tickers for future chains and option multihedge baskets.
Ticker History	1/1/2010	Product Definition records exist for all futures and options on futures.

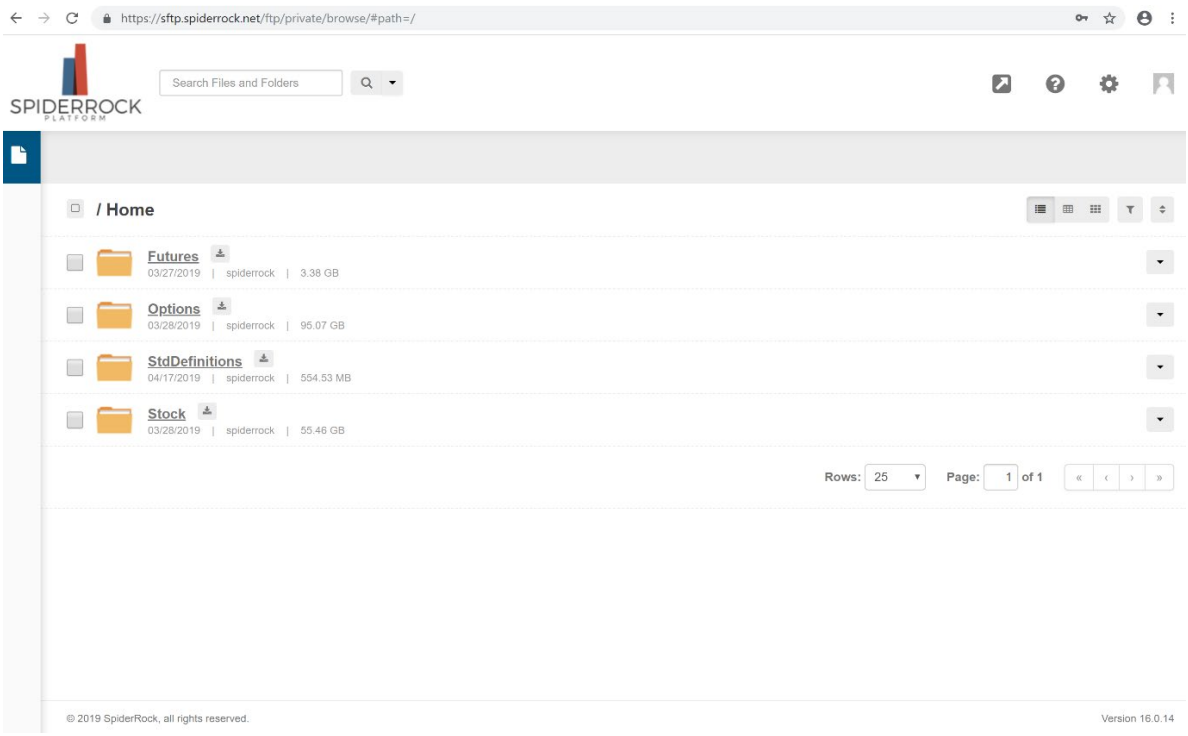
All of these files are available on a daily basis in the following format:

Table Name	Extension	Comments
Plain Text	.txt	This is a plain, uncompressed ASCII Text file. These are very large (e.g. stock minute bar for one day is around 124 megabytes). Therefore, it is not recommended that you download these but rather one of the files in a ZIP format
ZIP File	.zip	This is the plain text file compressed as a standard .ZIP file with medium compression. This should be compatible with most forms of compressed files. This is compressed to about 12% - 15% of the original size so the example given above compresses to approximately 20 Megabytes

Accessing the Files via the SFTP

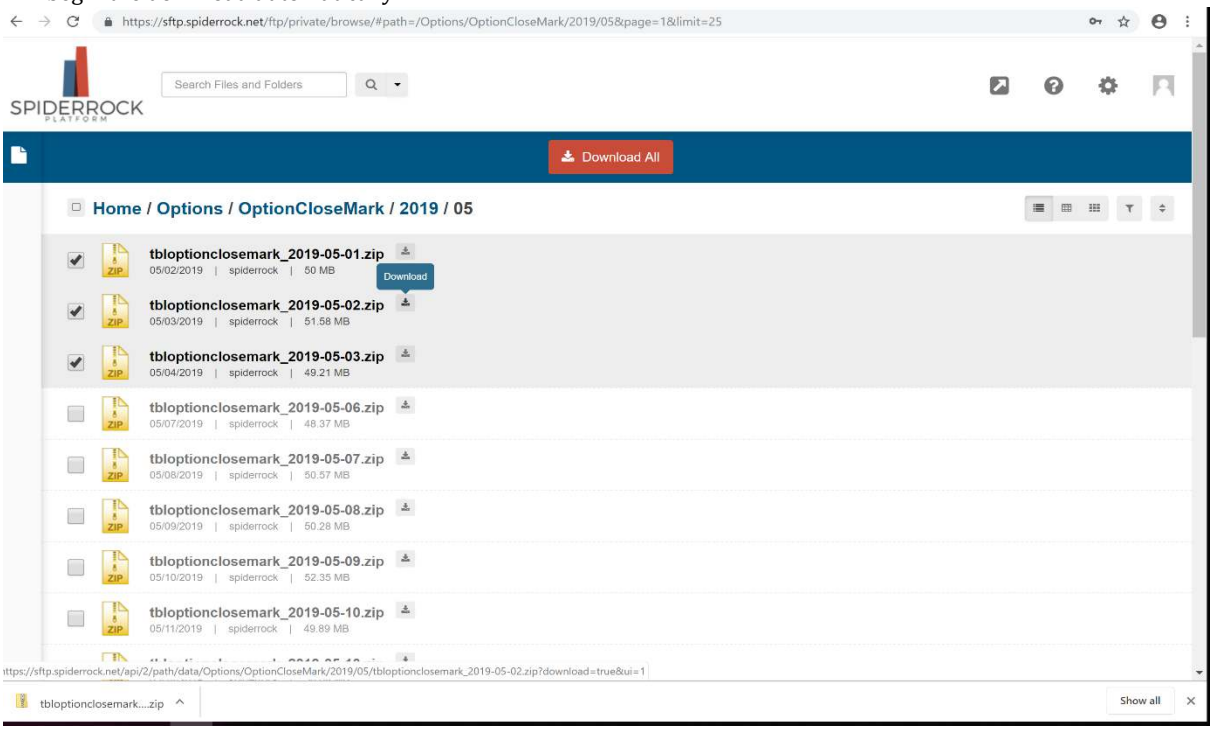
The data files can be downloaded from SpiderRock's SFTP server in compressed ZIP files. These ZIP files can then be uncompressed and transferred into a database or EXCEL workbook. To access and download the data needed, do the following:

1. On a standard browser, type "SFTP.Spiderrock.net" into the address bar
2. This goes to SpiderRock's SFTP site, where a login will be required. Type in the given SpiderRock username and corresponding password to gain access to the files.
3. The following home page should appear with folders of different assets and data:



4. Select the file you wish to open by clicking on the title (i.e. "Futures"). This should then display the different data sets available for the asset. Again, click on the title to choose which data file you wish to open based on the datatables offered.
5. Once you have opened your desired asset type and datatable, then select which date of data you wish to view. After selecting the year and month, the compressed file for each day is available.
6. The data files can be downloaded from SpiderRock's SFTP server in compressed ZIP files. These ZIP files can then be uncompressed and transferred into a database or EXCEL workbook. To access and download the data needed, do the following:

7. To download, there are a few options. You can either select multiple files to download by clicking the titles of each file or the square box next to each, then selecting the red “Download All” button at the top. If you wish to download an individual file, you can either select only the file wanted and click the red “Download” button, or you can click the download icon to the right of the title, which will begin the download automatically:

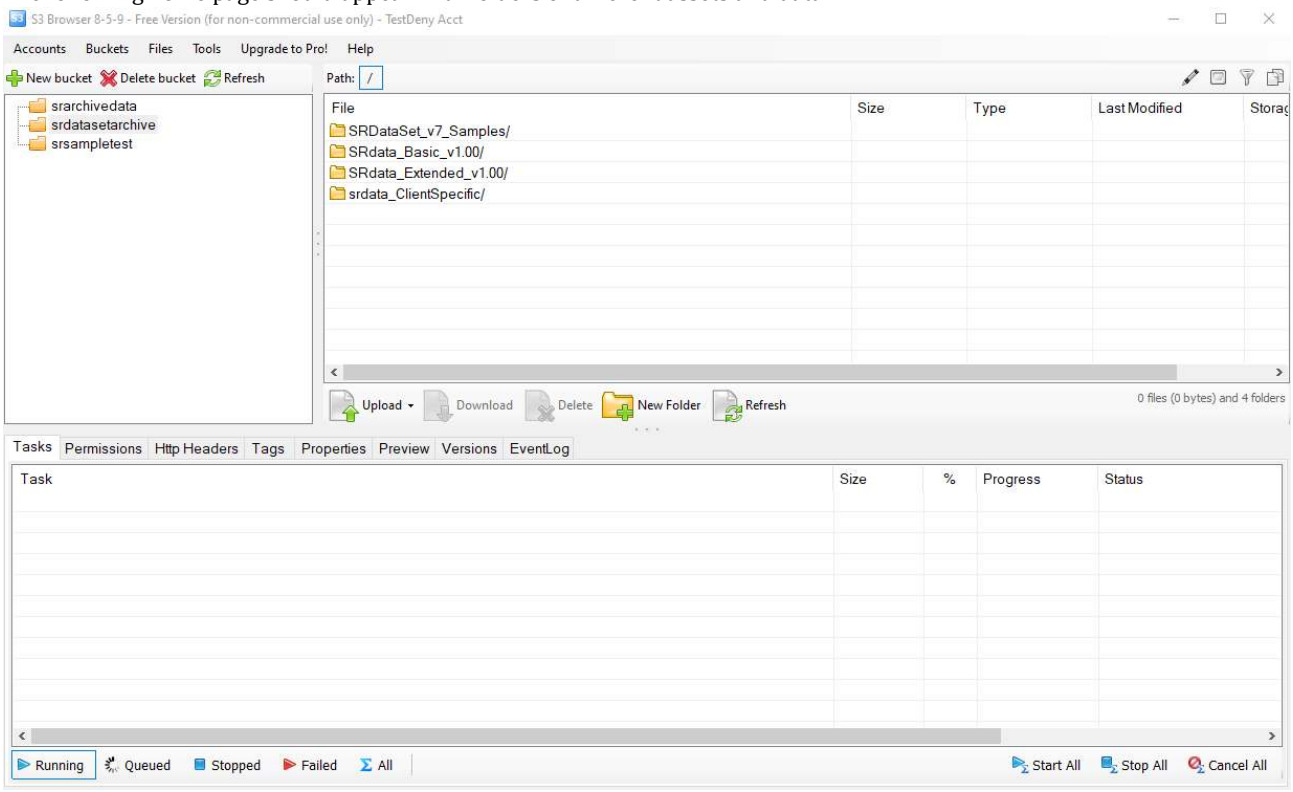


8. Name the ZIP file, and subsequently the data will begin to download. Once finished downloading, move the file to where you wish to store the data.
9. Double-click to open the ZIP file to see the data you downloaded. Ensure that the data is uncompressed before beginning to transfer it to another database or format.

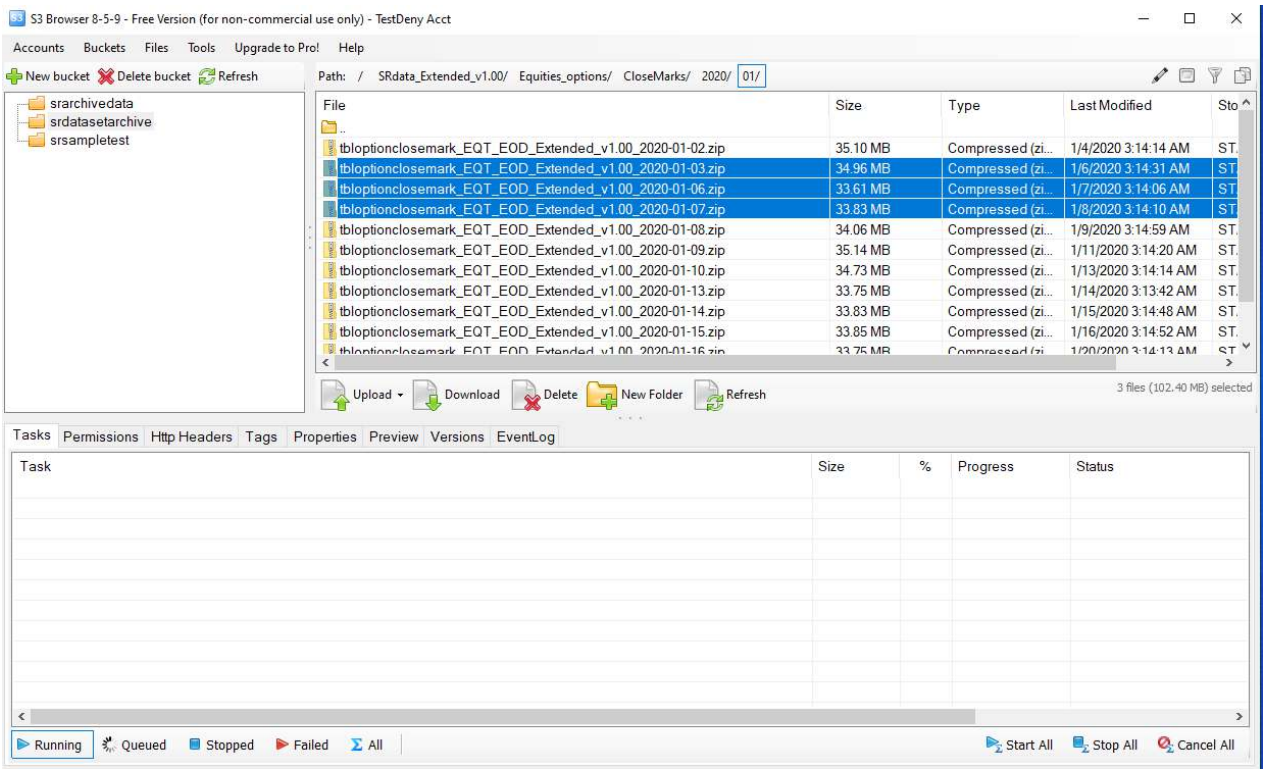
Accessing the Files via Amazon Web Services S3

The data files can be downloaded from SpiderRock's AWS S3 server in compressed ZIP files. These ZIP files can then be uncompressed and transferred into a database or EXCEL workbook. To access and download the data needed, do the following:

1. On a standard browser, type "https://s3browser.com/download.aspx" into the address bar and download the browser
2. Once downloaded, a login will be required, this consists of an ACCESS KEY and SECRET ACCESS KEY. Type in the given SpiderRock Access key and Secret Access key to gain access to the files.
3. The following home page should appear with folders of different assets and data:



4. You will be permissioned for the bucket **srdatasetarchivehist,** which includes the latest version of our data.
5. Select the file you wish to open by clicking on the title (i.e. "SRdata_hist"). This should then display the different data sets available for the dateset. Again, click on the title to choose which data file you wish to open based on the datatables offered.
6. Once you have opened your desired asset type and datatable, then select which date of data you wish to view. After selecting the year and month, the compressed file for each day is available.
7. The data files can be downloaded from SpiderRock's S3 server in compressed ZIP files. These ZIP files can then be uncompressed and transferred into a database or EXCEL workbook. To access and download the data needed, do the following:
8. To download, there are a few options. You can either select multiple files to download by clicking the titles of each file, then selecting the "Download" button at the bottom of the folder list. If you wish to download an individual file, you can either select only the file wanted and click the "Download" button. You are able to, if permissioned for the entire underlying data, download higher in the path (ie. At the monthly, yearly, or database file level).

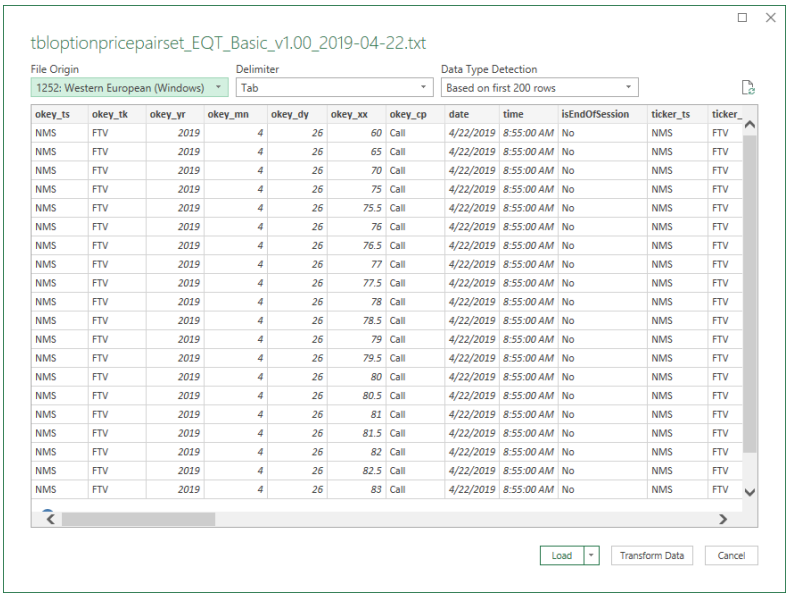


9. Choose the output folder where you want the data downloaded on your instance.
10. Name the ZIP file, and subsequently the data will begin to download. Once finished downloading, move the file to where you wish to store the data.
11. Double-click to open the ZIP file to see the data you downloaded. Ensure that the data is uncompressed before beginning to transfer it to another database or format.

Field Delimiters

These files have all been created as data exported directly from our underlying MySQL database tables. These are exported in ASCII formatted files with a TAB (\t or HEX 09) as the field delimiter. Therefore, these uncompressed files (subject to size limitations of your installation of EXCEL) can be opened by EXCEL as follows:

1. Start EXCEL and open a new workbook
2. Select “Data” on the ribbon, and then select “From Text/CSV”
3. Make sure that the filter is set to “All Files”
4. Navigate to where you downloaded and “unzipped” the file (**note you MUST open the uncompressed** version of the file, so if you downloaded the compressed version you must first uncompress it into an uncompressed format using either WINZIP or a similar tool).
5. Select the text file you want to open and press import. You will then be presented with a window which is similar to the following:



okey_ts	okey_tk	okey_yr	okey_mn	okey_dy	okey_xx	okey_cp	date	time	isEndOfSession	ticker_ts	ticker_
NMS	FTV	2019	4	26	60	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	65	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	70	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	75	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	75.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	76	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	76.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	77	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	77.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	78	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	78.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	79	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	79.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	80	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	80.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	81	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	81.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	82	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	82.5	Call	4/22/2019	8:55:00 AM	No	NMS	FTV
NMS	FTV	2019	4	26	83	Call	4/22/2019	8:55:00 AM	No	NMS	FTV

6. On this screen make sure you select the Delimiter as "Tab" and start import at Row 1 (as this data **DOES HAVE column headers** – so make sure you check the option 'Use First Row as Headers' in the 'Transfrom Data' window) and then select "Load". The rows will then start loading, which may take some time.

If desired, select "Transform Data" and on the next window you can apply any specific formatting required.

Please note that EXCEL does have limitations on the number of rows and columns. Depending on your installation, it may not be possible for EXCEL to load the entire file. For example, you will not be able to load all the data in excel for Live Surface Grids, Option Price Pair sets, Stock Minute Bars, and all Print sets. EXCEL will notify you if it cannot fit all of the data into a workbook.

File Naming conventions and Updates

All data is kept in separate files (in each of the above named formats) for every trading day from the starting date shown. For example, the stock Minute bar for the trading day of March 31st 2019 can be found at:

Sub Folder	File Name	Size	File Type
/StockMinuteBars	/tblstockminutebarhist_2019-03-31.txt	125,117KB	Uncompressed text version * *see note below – re text files*
/StockMinuteBars	/tblstockminutebarhist_2019-03-31.zip	20,649KB	Compressed ZIP file

All Data is updated in batch processes that typically run overnight. This means that another "days" activity is added to these tables once a day and at the completion of a month and the data is not changed again.

The exceptions to this rule are

- tblTradingDate which rarely changes and the ZIP file remains static.

By 7:00am on each trading day, the previous trading day's data should be completely loaded and ready for downloading.

Plain Text Files

Please note at the time of publishing this document the plain text files are not available (simply due to disk space considerations) and only the ZIP files are available which are an exact representation of the text files but compressed using standard ZIP formatting with the "optimal" flag set.

File headers

All of these text files contain a header (each column is delimited by a TAB – i.e. exactly the same as the data). Therefore, the very first record for each file contains the data name for each column. For example, if you were to load the file into EXCEL, row 1 would contain a header line.

Loading these files in a database

Loading files into a database is often the most practical way to import this data and most relational databases contain some type of functionality that will allow you to import external file directly into a database table. For example, MySQL has a standard import function and the command to import the stock minute bar would be:

```
load data local infile 'c:/ExternalData/tblstockminutebarhist_2019-06-29.txt' into table
tblstockminutebar_2019_06
fields terminated by '\t'
lines terminated by '\r\n'
ignore 1 lines
(date,time,skey_tk,skey_ts,skey_at,pOpen,pHigh,pLow,pLast,pVwap,pVlm,pCount,qOpen,qHigh,qLow,qLast,qCount,bid
,ask,qTwap,bsz,asz,width);
```

Notes:

1. This assumes you have unzipped the file to a folder on your C: drive called ExternalData. The convention for MySQL is to use the forward slash (/) as the directory separator as opposed to the backslash.
2. This assumes you have created a table in the target schema called tblStockMinuteBar_2019_06 and its columns are identical to that of the input file.
3. Ignore 1 lines is the instruction to ignore the 1st line of the data (i.e. the header line).
4. This example has explicitly laid out the columns to be imported – this specifies the "target" columns and NOT the source columns, but the order of these columns shown in this statement MUST be the order of the data in the source text file.

Concatenating Files

Should you wish to combine multiple input files into a single output text file you can achieve this with your operating systems concatenate functionality.

For example, in Windows the procedure would be:

1. Download the multiple files into a single folder (e.g. **`c:\Downloaded`**) and giving them different names
2. Create an output folder (e.g. **`c:\Output`**)
3. Once that is completed then issue the following command line command:
   `Type c:\Downloaded\*.txt >> c:\Output\MergedData.txt`

This will then create a single merged file of the multiple input files. Please note the following:

1. Make sure that the output folder exists and is EMPTY
2. Make sure you only merge together "like" data – in other words do not merge together different types of files
3. All of these files **have headers** so you should try and exclude the very 1st record of each data file if you want data only.
4. Over a period of time these files change (i.e. columns get added and/or removed). Therefore, if combining files over a period of time, you must be aware of this fact and ensure you are merging like data.

Detailed Data Explanation

Overview

This section explains in detail the columns that are available in each table. In the following tables, we show the columns that are included in these data fields and are shown in "ordinal order" i.e. the order in which the data appears in the file from left to right as indicated by the "Order" column in the following tables.

These files are all plain ASCII text files so the data types we have provided are the same as the source data type and the shown data would be compatible with that data type.

(*) indicates data included in the basic package.

Options (Equity/Index/Futures)

Options on Equities data presents pricing & greeks across all US listed options. There is one record per option series with separate fields for puts and calls. The Extended version includes derived data with high accuracy data analytics. The data tables included in Options on Equities include Closing Marks, Pair Set, 10 Minute Bars, Print Set, Live Surface Grids, and Live Surface Terms.

Options Closing Marks

Option Closing Mark records are created immediately after the market close and when exchanges publish official marks. These records contain closing quotes and prices as well as markup details for all outright options. SpiderRock includes their own algorithms that create estimates of the correct theoretical price, creating the SpiderRock closing mark.

Options on Futures Closing Mark records are created immediately after the market close, when exchanges publish official marks, and again during top of day rotation. These records contain closing quotes and prices as well as markup details for all outright options. The closing times are separated based on the futures exchange and products.

Order	Field	Type	Description
1	okey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	Option Underlying Asset Type
2	okey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE')	Option Ticker Source
3	okey_tk	varchar(12)	Option symbol
4	okey_yr	smallint(5) unsigned	Option expiration year
5	okey_mn	tinyint(3) unsigned	Option epiration Month
6	okey_dy	tinyint(3) unsigned	Option expiration day
7	okey_xx	double	option strike
8	okey_cp	enum('Call','Put','Pair')	option call/put indicator
9	tradingDate	datekey	Trading Date
10	tradingSession	enum('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')	Trading Session ('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')
11	undSecKey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	Underlying Asset Type
12	undSecKey_tk	varchar(12)	Underlying Ticker
13	undSecKey_yr	smallint(5) unsigned	Underlying Asset Expiration Year
14	undSecKey_mn	tinyint(3) unsigned	Underlying Asset Expiration Month

15	undSecKey_dy	tinyint(3) unsigned	Underlying Asset Expiration Day
16	undSecType	enum('None','Stock','Future','Option','MLeg')	Underlying Security Type
17	srCloseTime	time	SR closing mark time (C)
18	clsMarkState	enum('None','LastPrt','SRClose','ExchClose','Final')	Close mark state: None; LastPrt; SRClose; ExchClose; Final
19	uSrCls	double	SR underlier closing mark (C - 1m)
20	uClose	double	Exchange underlier closing mark
21	srClsPrc	double	SR close mark (close - 1min)
22	closePrc	double	Official exchange closing mark (note: may not be as/of srCloseTime)
23	srPrc	float	SpiderRock surface price (price corresponding to srVol; may not always be within bid/ask) (C - 1m)
24	srVol	float	SpiderRock surface volatility (C - 1m)
25	timestamp	datetime	
26	uBid	double	SR closing underlier bid (C - 1m)
27	uAsk	double	SR closing underlier ask (C - 1m)
28	bidPrc	float	SR closing option bid (C - 1m)
29	askPrc	float	SR closing option ask (C - 1m)
30	bidIV	float	implied vol of SpiderRock closing bid price (C - 1m)
31	askIV	float	implied vol of SpiderRock closing ask price (C - 1m)
32	de	float	delta (SR surface)
33	ga	float	gamma (SR surface)
34	th	float	theta (SR surface)
35	ve	float	vega (SR surface)
36	rh	float	rho (SR surrface)
37	ph	float	phi (SR surface)
38	vo	float	volga (SR surface)
39	va	float	vanna (SR surface)
40	sdiv	float	SR sdiv rate
41	ddiv	float	SR ddiv rate (sum of discrete dividend amounts)
42	rate	float	SR interest rate
43	years	float	years to expiration
44	error	tinyint(3) unsigned	SR pricing library calculation error code
45	openInterest	int(11)	Open Interest
46	prtCount	int(11)	Print Count

47	prtVolume	int(11)	total printed volume
48	priorDate	datetime	Prior Trading Day Date
49	prcAdjValue	float	corp action adjustment value (0.0 on most days); [todayPrice = priorPrice * prcAdjRatio + prcAdjValue]
50	prcAdjRatio	float	corp action adjustment factor (1.0 on most days)
51	priorSRClsPrc	float	values archive in the previous trading period
52	priorClosePrc	float	Prior Trading Day Closing Price

Data Updates/Fixes/Problems

See Records Data Change (p.67), Records Data Missing and Incomplete dates (p.69)

Options Intraday ID

Option Intraday records are created every 30 minutes or 5 minutes (see Data Updates/Fixes/Problems) while option markets are open from 8:55 A.M. to 3:15 P.M. They contain underlying, call, and put details for each outright option strike. They also contain SR surface volatilities, prices, and greeks.

Order	Data Name	Type	Comment
1	okey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE','DJI')	
2	okey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	
3	okey_tk	varchar(12)	
4	okey_yr	smallint unsigned	
5	okey_mn	tinyint unsigned	
6	okey_dy	tinyint unsigned	
7	okey_xx	double	
8	okey_cp	enum('Call','Put','Pair')	
9	date	datetime(6)	end of minute bar
10	tradingDate	date	
11	tradingSession	enum('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')	
12	undSecKey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	
13	undSecKey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE','DJI')	

14	undSecKey_tk	varchar(12)	
15	undSecKey_yr	smallint unsigned	
16	undSecKey_mn	tinyint unsigned	
17	undSecKey_dy	tinyint unsigned	
18	undSecType	enum('None','Stock','Future','Option','MLeg')	
19	uBid	float	Live underlier bid price
20	uAsk	float	Live underlier ask price
21	uPrc	float	Live underlier Price
22	bidPrc	float	Live option bid price
23	askPrc	float	Live option ask price
45	bidSz	int	Live Bid Size (size of largest exchange)
46	askSz	int	Live Ask Size (size of largest exchange)
47	cumBidSize	int	bid size in contracts (total nbbo size @ bidPrc)
48	cumAskSize	int	ask size in contracts (total nbbo size @ bidPrc)
49	bidExch	enum:OptExch	first (or largest remaining) exchange at bid price
50	askExch	enum:OptExch	first (or largest remaining) exchange at ask price
51	bidMask	uint	exchange bid bit mask (set of exchanges at bidPrc)
52	askMask	uint	exchange ask bit mask (set of exchanges at askPrc)
53	bidPrice2	float	2nd best bid price
54	askPrice2	float	2nd best ask price
55	cumBidSize2	int	cumulative size at 2nd price
56	cumAskSize2	int	cumulative size at 2nd price
57	bidIV	float	Live option implied bid
58	askIV	float	Live option implied ask
59	srPrc	float	Live SpiderRock surface price
60	srVol	float	Live SpiderRock surface volatility
61	de	float	delta (SR surface)
62	ga	float	gamma (SR surface)
63	th	float	theta (SR surface
64	ve	float	vega (SR surface)
65	rh	float	rho (SR surrface)
66	ph	float	phi (SR surface)
67	vo	float	volga (SR surface)
68	va	float	vanna (SR surface)
69	deDecay	float	delta decay (SR surface)
70	sdiv	float	SpiderRock sdiv rate
71	ddiv	float	SpiderRock ddiv rate (sum of discrete dividend amounts)
72	rate	float	SpiderRock interest rate
73	years	float	years to expiration

74	error	tinyint unsigned	SpiderRock pricing library calculation error code (0=None)
75	prtVolume	int	total printed volume
76	timestamp	datetime(6)	
77	securityID	bigint	

Data Updates/Fixes/Problems

Option Pair Set records are created every 5 minutes while option markets are open from 8:55 A.M. to 3:15 P.M. for data after 2019-10-21. 30 minute records are discontinued past 2019-10-21.

See Records Data Change (p.67), Records Data Missing and Incomplete dates (p.69)

Options At The Money Minute Bars

Option At The Money Minute Bar records are created once every 10 minutes for all option markets. Data included in this set includes high/low values, close data, dividend information, and volatility data.

Order	Field	Type	Comment
1	ekey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	Expiry key for underlying asset type
2	ekey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE')	
3	ekey_tk	varchar(12)	Expiry 'ticker' symbol
4	ekey_yr	smallint(5) unsigned	Expiry year
5	ekey_mn	tinyint(3) unsigned	Expiry month
6	ekey_dy	tinyint(3) unsigned	Expiry day
7	minute	int(11)	minute since 2000-01-01
8	date	datetime	
9	time	varchar(8)	time in HH:MM:SS (6 digit granularity)
10	minute	int(11)	minute since 2000-01-01
11	ticker_tk	varchar(12)	Underlying ticker
12	TradingDate		Trading Date
13	tradingSession	enum('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')	
14	uPrc	float	Underlying price
15	years	float	Years to expiry
16	rate	float	Interest rate
17	sdiv	float	Continuous stock dividend
18	ddiv	float	Discrete stock dividend value
19	uPrcOffset	float	Implied underlying price offset. For options with futures underlyings, this is like sDiv for futures.
20	ivol	float	atm ivol (atm: strike = fUPrc)
21	ivxx	float	fixed strike ivol (ivol @ refStrike)
22	refStrike	float	reference strike (usually prior day closing uPrc)
23	ivolHi	float	Implied Volatility high value (during bar)
24	ivolLo	float	Implied Volatility low value (during bar)
25	ivxxHi	float	Implied Volatility of Previous Day's ATM strike, high value (during bar)
26	ivxxLo	float	Implied Volatility of Previous Day's ATM strike, low value (during bar)
27	sdivHi	float	Continuous carry rate, high value (during bar)

28	sdivLo	float	Continuous carry rate, low value (during bar)
29	uPrcOffHi	float	Underlying price offset value, high value (during bar)
30	uPrcOffLo	float	Underlying price offset value, low value (during bar)
31	timestamp	datetime	
32	ivCen	float	atm ivol (atm: strike = fUPrc) [eMove/earnings censored]
33	slope	float	dVol / dXAxis
34	vWidth	float	implied volatility width (best market)
35	ivCenHi	float	Censored implied volatility high value (during bar)
36	ivCenLo	float	Censored implied volatility low value (during bar)
37	slopeHi	float	Slope high value (during bar). The difference between the put and call at 1/2 standard deviation from the ATM point.
38	slopeLo	float	Slope low value (during bar). The difference between the put and call at 1/2 standard deviation from the ATM point.
39	varSwapFV	float	variance swap fair value (estimated by numerical integration over OTM price surface)
40	isEOB	enum('None','Yes','No')	is end-of-bar (every 10 minutes)
41	isEOH	enum('None','Yes','No')	is end-of-hour

Data Updates/Fixes/Problems

Option Print Set ID

Option Print Set records contain every option print along with quote, surface, and SR probability details at print time. These records also contain 1 Minute and 10 Minute forward mark details. These records are created for every print at the time of print and updated at 1 Minute and 10 Minutes forward to include trade performance. SpiderRock Alpha probabilities for each print are archived with the print.

Order	Field	Data Type	Comment
1	okey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	Option Underlier Asset Type
2	okey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE')	Option ticker source
3	okey_tk	varchar(12)	Option symbol
4	okey_yr	smallint(5) unsigned	Option expiration year
5	okey_mn	tinyint(3) unsigned	Option epiration Month
6	okey_dy	tinyint(3) unsigned	Option expiration day
7	okey_xx	double	option strike
8	okey_cp	enum('Call','Put','Pair')	option call/put indicator
9	prtNumber	bigint(20)	Unique print set identifier, will increment but not guaranteed to be sequential
10	tradingDate	date	tradingDate
11	tradingSession	enum('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')	Trading Session: ('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')
12	ticker_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX')	
13	ticker_tk	varchar(12)	Underlyer Symbol
14	undSecKey_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	underlier sec key
15	undSecKey_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE')	underlier sec key
16	undSecKey_tk	varchar(12)	underlier sec key
17	undSecKey_yr	smallint(5) unsigned	underlier sec key
18	undSecKey_mn	tinyint(3) unsigned	underlier sec key
19	undSecKey_dy	tinyint(3) unsigned	underlier sec key
20	undSecType	enum('None','Stock','Future','Option','MLeg')	underlier sec type
21	tradingSession	enum('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')	Trading Session: ('None','RegularMkt','PreMkt','PostMkt','PostMktETF','NextDay')
22	prtExch	varchar(15)	Exchange on which print took place

23	prtSize	int(11)	print size [contracts]
24	prtPrice	float	print price
25	prtType	tinyint(3) unsigned	print type
26	prtOrders	smallint(5) unsigned	number of participating orders
27	prtClusterNum	int(11)	incremental print cluster counter (one counter per okey; used to group prints into clusters)
28	prtClusterSize	int(11)	cumulative size of prints in this sequence (prints @ same or more aggressive price with less than 25 ms elapsing since first print; can span exchanges)
29	prtVolume	int(11)	day print volume in contracts
30	cxlVolume	int(11)	day print/cancel volume (num of contracts printed and then cancelled)
31	bidCount	smallint(5) unsigned	number of bid prints
32	askCount	smallint(5) unsigned	number of ask prints
33	bidVolume	int(11)	bid print volume in contracts
34	askVolume	int(11)	ask print volume in contracts
35	ebid	float	exchange bid (@ print time)
36	eask	float	exchange ask (@ print time)
37	ebsz	smallint(5) unsigned	exchange bid size
38	easz	smallint(5) unsigned	exchange ask size
39	eage	float	age of prevailing quote at time of print
40	prtSide	enum('None','Mid','Bid','Ask')	('None','Mid','Bid','Ask')
41	prtTimestamp	bigint(20)	exchange high precision timestamp (if available)
42	netTimestamp	bigint(20)	inbound packet PTP timestamp from SR gateway switch; usually syncronized with facility grandfather clock
43	timestamp	datetime	
44	oBid	float	Option NBBO bid a the time the print was received
45	oAsk	float	Option NBBO ask a the time the print was received
46	oBidSz	int(11)	Option NBBO cumulative bid size at the time the print was received
47	oAskSz	int(11)	Option NBBO cumulative ask size at the time the print was received
48	oBidEx	varchar(15)	First (or largest) option exchange on the bid
49	oAskEx	varchar(15)	First (or largest) option exchange on the ask
50	oBidExSz	int(11)	Option bid size of the largest exchange on the bid at the time the print was received
51	oAskExSz	int(11)	Option ask size of the largest exchange on the ask at the time the print was received
52	oBidCnt	tinyint(3) unsigned	Number of exchanges on the NBBO bid
53	oAskCnt	tinyint(3) unsigned	Number of exchanges on the NBBO ask

54	oBid2	float	Second level bid price
55	oAsk2	float	Second level ask price
56	oBidSz2	int(11)	Cumulative size on the second level bid price
57	oAskSz2	int(11)	Cumulative size on the second level ask price
58	uBid	double	underlier bid
59	uAsk	double	underlier ask
60	uPrc	double	underlier price
61	yrs	float	years to expiry
62	rate	float	interest rate
63	sdiv	float	continuous stock dividend
64	ddiv	float	discrete stock dividend value (sum of dividends <= expiration)
65	xDe	float	xDelta
66	xAxis	float	SR surface xAxis value
67	prtIv	float	print implied vol
68	prtDe	float	print delta
69	prtGa	float	print gamma
70	prtTh	float	print theta
71	prtVe	float	print vega
72	prtRo	float	print rho
73	calcErr	varchar(24)	calc error flag
74	surfVol	float	SR surface volatility
75	surfOpx	float	SR surface price
76	surfAtm	float	SR surface ATM vol
77	prtProbability	float	[M1] probability that buying prtSize contracts @ prtPrice will have positive m10 pnl (prtPriceM10 >= prtPrice) [recorded at time of print]
78	prtProbabilityM2	float	alternate probability model
79	prtProbabilityM3	float	alternate probability model
80	oBidM1	float	NBBO option bid 1 minute after print was received
81	oAskM1	float	NBBO option ask 1 minute after print was received
82	uBidM1	double	NBBO underlying bid 1 minute after print was received
83	uAskM1	double	NBBO underlying ask 1 minute after print was received
84	uPrcM1	double	Underlying price 1 minute after print was received
85	sVolM1	float	Suface volatility 1 minute after print was received
86	sOpxM1	float	Surface option price 1 minute after print was received
87	sDivM1	float	sDiv 1 minute after print was received

88	sErrM1	varchar(12)	Surface error condition (if any) 1 minute after print was received
89	pnlM1	float	pnl after 1 minute
90	pnlM1 Err	enum('None','Yes','No')	Error condition for PnL calculated over the first 1 minute after the print was received
91	oBidM 10	float	NBBO option bid 10 minutes after print was received
92	oAskM 10	float	NBBO option ask 10 minutes after print was received
93	uBidM 10	double	NBBO underlying bid 10 minutes after print was received
94	uAskM 10	double	NBBO underlying ask 10 minutes after print was received
95	uPrcM 10	double	Underlying price 10 minutes after print was received
96	sVolM1 0	float	Suface volatility 10 minutes after print was received
97	sOpxM 10	float	Surface option price 10 minutes after print was received
98	sDivM1 0	float	sDiv 10 minutes after print was received
99	sErrM1 0	varchar(12)	Surface error condition (if any) 10 minutes after print was received
100	pnlM1 0	float	pnl after 10 minutes
101	pnlM1 0Err	enum('None','Yes','No')	Error condition for PnL calculated 10 minutes after the print was received

Data Updates/Fixes/Problems

See Records Data Change (p.67), Records Data Missing and Incomplete dates (p.69)

Support Files Overview

Ensure the data provided is accurate and well supported with reference data such as definitions, trading dates, volatility history, and exchange imbalance details.

SpiderRock reference data incorporates all earnings and dividends data.

This includes:

- Earning Dates
- Earnings Counts
- Earnings Forecasts
- Dividend Forecasts
- Corporate Action Price Adjustments
- Security ID

Ticker Definition Hist Map

Order	Field Name	Data Type	Comment
1	ticker_at	enum('None','EQT','IDX','BND','CUR','COM','FUT','SYN','WAR','FLX','MUT','SPD','MM','MF','COIN','TOKEN')	Asset type
2	ticker_ts	enum('None','SR','NMS','CME','ICE','CFE','CBOT','TD','NYMEX','COMEX','RUT','CBOE','ISE','ARCA','NYSE','OTC','GDAX','BSTAMP','KRAKEN','TST','USR1','USR2','USR3','NSDQ','MFQS','PHLX','MIAX','TSE','DJI')	Source
4	ticker_tk	varchar(60)	traded ticker
5	securityDesc	varchar(70)	Security Name
9	tradingDate	date	reference date
10	securityID	varchar(12)	SecurityID (EDI, global)
13	openPrice	double	Open
14	High	double	High
15	Low	double	Low
16	closePrice	float	Close (SR)
19	Currency	varchar(3)	Currency (price)

20	Volume	int	Daily Volume (SR)
22	SharesOutstanding	int	self-explanatory (SR)
23	primaryExch	varchar(6)	primary exchange (SR)
26	securityType	varchar(3)	Security Type (EDI)
28	SIC	varchar(10)	Standard Industrial Classification
29	ISIN	varchar(12)	ISIN
30	GICS	varchar(8)	Global Industry Classification Standard
31	CntryofIncorp	varchar(2)	Country of Incorporation
32	ExchgCD	varchar(6)	Exchange Code
33	ExchgCntry	varchar(2)	Exchange Country
34	BbgCompositeGlobalID	varchar(12)	Bloomberg CompositeID
35	BbgCompositeTicker	varchar(40)	Bloomberg Comp Ticker
36	BbgExchangeTicker	varchar(40)	Bloomberg Exch Ticker

37	Mic	varchar(4)	Market Id Code (EDI)
38	timestamp	datetime	last updated

Ticker History

Order	Field Name	Data Type	Comment
1	date	datetime	trade date
2	securityID	bigint	securityID (EDI)
3	dn	int	trading date cardinal (1 = '1996-01-01')
4	ticker	varchar(12)	ticker
5	open	float	
6	high	float	
7	low	float	
8	close	float	
9	closePr	double	previous close (adjusted div, splits, ...)
10	volume	int	daily traded volume
11	shares	int	shares outstanding
12	ccVar	double	Close-Close daily variance
13	hlVar	double	High-Low daily variance (High, Low including `closePr`)

14	rvVar	decimal(2,1)	N.A for now
15	earnFlag	varchar(2)	earning Date flag: '0' = is earning date, '-1/1' = before/after earning date
16	expiryCount	tinyint unsigned	number of expiries
17	hEMove	float	historical realized average earnings move
18	iEMove	float	forward implied volatility based earning move
19	atmCenI_decay	float	*** all fields here and below extracted from SurfaceFixedTermHist table (see for docs).
20	atmCenI_st	float	
21	atmCenI_lt	float	
22	atmCenI_5d	float	

23	atmCenI_21d	float	
24	atmCenI_42d	float	
25	atmCenI_63d	float	
26	atmCenI_84d	float	
27	atmCenI_105d	float	
28	atmCenI_126d	float	
29	atmCenI_189d	float	
30	atmCenI_252d	float	
31	atmCenI_378d	float	
32	atmCenI_504d	float	
33	atmCenH_st	float	
34	atmCenH_lt	float	
35	atmCenH_decay	float	
36	atmCenH_5d	float	
37	atmCenH_21d	float	
38	atmCenH_42d	float	
39	atmCenH_63d	float	
40	atmCenH_84d	float	
41	atmCenH_105d	float	
42	atmCenH_126d	float	
43	atmCenH_189d	float	
44	atmCenH_252d	float	

45	atmCenH_378d	float	
46	atmCenH_504d	float	
47	nEarnCnt	int	
48	nEarnCnt_5d	int	
49	nEarnCnt_21d	int	
50	nEarnCnt_42d	int	
51	nEarnCnt_63d	int	
52	nEarnCnt_84d	int	
53	nEarnCnt_105d	int	
54	nEarnCnt_126d	int	
55	nEarnCnt_189d	int	
56	nEarnCnt_252d	int	
57	nEarnCnt_378d	int	
58	nEarnCnt_504d	int	
59	totalReturn	double	daily return adjusted for corporate actions

Exchange Codes

The following table identifies the exchange codes used

Code	Description
A	AMEX
B	BOX
C	CBOE
H	GMNI
I	ISE
J	MERCURY
M	MIAX
N	NYSE
Q	NASDAQ
T	NQBX
W	C2
X	PHLX
Z	BATS

Records Data Change

The following tables identify changes in the Data Type for each of the specified data names for tables available prior to 01-01-2019, and post 01-01-2019.

Options Closing Marks

Data Name	Description	Data Type (v7 < 01.01.2019)	Data Type (v7 > 01.01.2019)
years	Years to expiration	0	float
openInterest	Open Interest	0	int(11)
prtCount	Print count	0	int(11)
prtVolume	Print Volume	0	int(11)
srClsPrc	SpiderRock close mark (close - 1min)	0	double
closePrc	Official exchange closing mark (last print;then official close)	0	double

Options Print Set

Data Name	Description	Data Type (v7 < 01.01.2019)	Data Type (v7 > 01.01.2019)
uPrcM1	Underlying price 1 minute after print was received	0	double
uPrcM10	Underlying price 10 minutes after print was received	0	double
pnlM1	PnL after 1 minute	0	float
xAxis	SR surface xAxis value	0	float
prtProbability	Probability that buying prtSize contracts @ prtPrice will have positive m10 pnl (prtPriceM10 >= prtPrice) [recorded at time of print]		float
surfAtm	SR surface ATM vol	0	float
prtTimestamp	Exchange high precision timestamp (if available)	0	bigint(20)
netTimestamp	Inbound packet PTP timestamp from SR gateway switch;usually syncronized with facility grandfather clock	0	bigint(20)
prtSide	Print Side: None; Mid; Bid; Ask	NONE	MID, BID, ASK
bidVolume	Bid print volume in contracts	0	int(11)
askVolume	Ask print volume in contracts	0	int(11)
prtOrders	Number of participating orders	0	smallint(5) unsigned
prtClusterNum	Incremental print cluster counter (one counter per okey; used to group prints into clusters)	0	int(11)
prtClusterSize	Cumulative size of prints in this sequence (prints @ same or more	0	int(11)

Records Missing and Incomplete Dates

The following tables identify dates where data is either incomplete or missing for the following data sets for Trading Days.

Options Closing Marks

Date	Market Close Time	Data Set	Issue
2016-07-01	15:00	Option Close Mark	No data
2016-07-12	15:00	Option Close Mark	No data
2016-07-14	15:00	Option Close Mark	No data
2017-01-13	15:00	Option Close Mark	No data
2017-02-03	15:00	Option Close Mark	No data
2017-02-07	15:00	Option Close Mark	No data
2017-04-17	15:00	Option Close Mark	No data
2017-05-12	15:00	Option Close Mark	No data
2018-12-24	12:00	Option Close Mark	half day; data was recorded after the close
2019-07-03	12:00	Option Close Mark	half day; data was recorded after the close

Options intraday

Date	Market Close Time	Data Set	Issue
2009-11-27	12:00	Option Price Pair	half day; data was recorded after the close
2009-12-24	12:00	Option Price Pair	half day; data was recorded after the close
2010-06-17	15:00	Option Price Pair	No data
2010-06-18	15:00	Option Price Pair	No data
2010-06-21	15:00	Option Price Pair	No data
2010-06-22	15:00	Option Price Pair	No data
2010-06-23	15:00	Option Price Pair	No data
2010-06-24	15:00	Option Price Pair	No data
2010-06-25	15:00	Option Price Pair	No data
2010-06-28	15:00	Option Price Pair	No data
2010-06-29	15:00	Option Price Pair	No data
2010-06-30	15:00	Option Price Pair	No data
2010-07-01	15:00	Option Price Pair	No data
2010-07-02	15:00	Option Price Pair	No data
2010-07-06	15:00	Option Price Pair	No data
2010-07-07	15:00	Option Price Pair	No data
2010-07-08	15:00	Option Price Pair	No data
2010-07-09	15:00	Option Price Pair	No data
2011-06-08	15:00	Option Price Pair	No data
2011-11-25	12:00	Option Price Pair	half day; data was recorded after the close
2012-01-25	15:00	Option Price Pair	No data
2012-01-26	15:00	Option Price Pair	No data
2012-01-27	15:00	Option Price Pair	No data
2012-01-30	15:00	Option Price Pair	No data
2012-05-16	15:00	Option Price Pair	No data
2012-06-12	15:00	Option Price Pair	No data
2012-06-22	15:00	Option Price Pair	No data
2012-06-25	15:00	Option Price Pair	No data
2012-06-26	15:00	Option Price Pair	No data
2012-06-27	15:00	Option Price Pair	No data

Date	Market Close Time	Data Set	Issue
2012-06-28	15:00	Option Price Pair	No data
2012-06-29	15:00	Option Price Pair	No data
2012-07-02	15:00	Option Price Pair	No data
2012-07-03	12:00	Option Price Pair	No data
2012-07-05	15:00	Option Price Pair	No data
2012-11-23	12:00	Option Price Pair	half day; data was recorded after the close
2014-07-30	15:00	Option Price Pair	No data
2014-11-28	12:00	Option Price Pair	half day; data was recorded after the close
2014-11-28	12:00	Option Price Pair	half day; data was recorded after the close
2015-03-13	15:00	Option Price Pair	No data
2015-06-01	15:00	Option Price Pair	No data
2015-08-14	15:00	Option Price Pair	No data
2015-10-08	15:00	Option Price Pair	No data
2015-10-28	15:00	Option Price Pair	No data
2015-11-02	15:00	Option Price Pair	No data
2015-11-03	15:00	Option Price Pair	No data
2015-12-24	12:00	Option Price Pair	half day; data was recorded after the close
2016-06-07	15:00	Option Price Pair	No data
2016-11-25	12:00	Option Price Pair	half day; data was recorded after the close
2019-07-03	12:00	Option Price Pair	half day; data was recorded after the close
2018-12-24	12:00	Option Price Pair	half day; data was recorded after the close
2019-02-18	Closed	Option Price Pair	Market Closed for EQT; there is data for EQT.
2019-01-21	Closed	Option Price Pair	Market Closed for EQT; there is data for EQT
2019-04-19	Closed	Option Price Pair	Market Closed for EQT; there is data for EQT

Options Print Set

Date	Market Close Time	Data Set	Issue
2014-02-06	15:00	Option Print Set	No data
2014-03-28	15:00	Option Print Set	No data
2014-04-03	15:00	Option Print Set	No data
2014-04-17	15:00	Option Print Set	No data
2014-05-08	15:00	Option Print Set	No data
2014-05-19	15:00	Option Print Set	No data
2014-05-20	15:00	Option Print Set	No data
2014-05-30	15:00	Option Print Set	No data
2014-06-02	15:00	Option Print Set	No data
2014-06-03	15:00	Option Print Set	No data
2014-06-04	15:00	Option Print Set	No data
2014-06-05	15:00	Option Print Set	No data
2014-06-06	15:00	Option Print Set	No data
2014-06-09	15:00	Option Print Set	No data
2014-06-10	15:00	Option Print Set	No data
2014-06-11	15:00	Option Print Set	No data
2014-06-12	15:00	Option Print Set	No data
2014-06-13	15:00	Option Print Set	No data

Date	Market Close Time	Data Set	Issue
2014-06-16	15:00	Option Print Set	No data
2014-06-17	15:00	Option Print Set	No data
2014-06-18	15:00	Option Print Set	No data
2014-06-19	15:00	Option Print Set	No data
2014-06-20	15:00	Option Print Set	No data
2014-07-03	12:00	Option Print Set	half day; data was recorded after the close
2014-07-30	15:00	Option Print Set	No data
2014-08-04	15:00	Option Print Set	No data
2014-09-02	15:00	Option Print Set	No data
2014-09-03	15:00	Option Print Set	No data
2014-09-04	15:00	Option Print Set	No data
2014-09-05	15:00	Option Print Set	No data
2014-09-08	15:00	Option Print Set	No data
2014-09-09	15:00	Option Print Set	No data
2014-09-10	15:00	Option Print Set	No data
2014-09-11	15:00	Option Print Set	No data
2014-09-12	15:00	Option Print Set	No data
2014-11-24	15:00	Option Print Set	No data
2014-11-28	15:00	Option Print Set	No data
2015-01-07	15:00	Option Print Set	No data
2015-03-03	15:00	Option Print Set	No data
2015-03-19	15:00	Option Print Set	No data
2015-06-30	15:00	Option Print Set	No data
2015-07-01	15:00	Option Print Set	No data
2015-10-08	15:00	Option Print Set	No data
2015-10-28	15:00	Option Print Set	No data
2015-11-02	15:00	Option Print Set	No data
2016-11-25	12:00	Option Print Set	half day; data was recorded after the close
2017-07-19	15:00	Option Print Set	No okey_at = 'EQT' data
2017-08-01	15:00	Option Print Set	No okey_at = 'EQT' data
2017-09-25	15:00	Option Print Set	No okey_at = 'EQT' data
2017-12-19	15:00	Option Print Set	No okey_at = 'EQT' data
2019-07-03	12:00	Option Print Set	half day; data was recorded after the close