



Data Delivery Options

**A Detailed Guide to Tick Data's Hosted and
Local Data Delivery Methods**

Data Delivery Options

Tick Data's core product is clean, research-ready, global institutional-quality data. We deliver our data products by a variety of methods we refer to as *Data Delivery Options*. By combining the data products you require with the Data Delivery Option that best fits your needs, Tick Data endeavors to provide a truly customized, end-to-end *Historical Data Solution*.

This Guide describes the available Data Delivery Options, and assists in matching your intended use with the optimal means of data delivery to make the integration of our data with your infrastructure as seamless as possible.

Our Data Delivery Options are available in two main categories:

Local Data Delivery Options

- TickWrite®
- TickMarket®
- TickSymbol®
- TickFTP®

Hosted Data Delivery Options

- TickAPI /Stream®
- TickAPI /Download®
- TickWrite on Demand®

Which Delivery Option Is Right For You?

The process of mapping the optimal delivery method to your application starts by answering a few questions:

1. Will I database data or utilize flat files?
2. Do I need time series data or as-traded files by day?
3. Do I require data in my local office or do I want it hosted remotely by Tick Data?
4. Do I wish to access the data via a GUI or an API?

After reviewing the details of each option, please see the last page of this Guide for a decision tree that will help you to find the right historical data solution.

What is *Local Data* versus *Hosted Data*?

Local Data is data we deliver to you, that you store within your infrastructure. The data is delivered as-traded, in compressed, comma-delimited text files. We deliver this data to you either on external hard drives, or via download, depending on the size of the order and the speed of your internet connection. We also include our TickWrite® software (Windows® and Linux® versions available) with local data orders. TickWrite® is a GUI-based program that you may use to convert the as-traded data to a time series, and automate the downloading of daily updates.

Local Data is the right solution for you if:

- Your organization has adequate storage infrastructure to accommodate as-traded data, which can be multiple terabytes, or...
- You prefer to store as-traded data in-house for your research, or...
- You have the resources in-house (i.e. corporate actions information and database capabilities) to convert as-traded data to a time series.

Local Data Delivery Options: TickWrite®, TickMarket®, TickSymbol®, TickFTP®

Hosted Data is data we store and maintain in an Amazon Cloud environment (AWS) and deliver to you upon request. We not only store the raw, as-traded tick-by-tick data, but also maintain all corresponding Ticker Mapping® and corporate actions (e.g. splits, dividends) information. You may request as-traded or time series data either via our browser-based version of TickWrite® or programmatically using our TickAPI®.

Hosted Data is the optimal solution for you if:

- You do NOT have the storage infrastructure in-house, or wish to avoid the cost of maintaining the infrastructure, required to store all of the as-traded data, or...
- You do NOT need to have all of the as-traded data in-house, and prefer to request just the time series data you need for your research, or...
- Your symbol universe is not constant, and therefore you need to request different data each day, week or month.

Hosted Data Delivery Options: TickAPI /Stream®, TickAPI /Download®, TickWrite on Demand®.

Do I Need *Time Series* or *As-Traded* Data?

Time Series Data is data that extends beyond a single day and combines symbols as necessary to reflect the results of corporate actions. For example, a single file for Citigroup, Inc. where $C = C + CCI + TRV$ from 1993-2010 is a time series. Our corporate action information combines a succession of as-traded symbols and applies the necessary adjustments to price to reflect mergers, stock splits, etc. Time series data is also referred to as “mapped data”.

Clients using 3rd party tools such as Matlab® or proprietary C++ code to analyze a group of ASCII or text files typically require time series data adjusted for corporate actions to ensure a sufficient amount of historical data for back-testing that contains no price spikes or gaps due to corporate actions.

As-Traded Data is single-day data named by the symbol under which it traded on a particular day. Clients often refer to *as-traded* data as “raw data”. Ticker “C” as-traded in 1993 is Chrysler. Ticker “C” as-traded in 2014 is Citigroup. Clients using a 3rd party database, who have their own corporate actions, typically require as-traded data. Tick Data will deliver a single file per symbol per day if as-traded data is licensed.

Time Series Data Delivery Options:

Hosted: TickAPI /Stream®, TickAPI /Download®,
TickWrite on Demand®

Local: TickWrite®

As-Traded Data Delivery Options

Local: TickWrite®, TickMarket®, TickSymbol®, or TickFTP®

Do I Need TickWrite®, Tick Data's Data Management Software Application?

TickWrite® is a key component of Tick Data's suite of *Historical Data Solutions*. For *Local Data* clients it allows for easy updating of datasets and facilitates the conversion of as-traded data into custom, research-ready time series files.

Why Would I Use TickWrite®?

Futures, options, equity, and index data each have unique characteristics with their own set of challenges to make raw data research-ready. TickWrite® virtually eliminates these challenges by providing all of the tools needed to quickly and easily prepare historical data for analysis.

When TickWrite® is installed and when it checks for updates, the software downloads encrypted metadata used to map as-traded equity and options data into time series. TickWrite® also includes many other features that make historical data research-ready. For example, TickWrite® can build bars, format dates, times, and delimiters, and perform numerous filtering tasks. When creating time series of equity and options data the software can adjust for splits and stock dividends. When using futures data, TickWrite® also provides many options for creating continuous files, including multiple rollover and adjustment methods.

Why Would I Not Want to Use TickWrite®?

While the majority of Tick Data clients prefer TickWrite® for its convenient data updating and time series building features, many clients have other methods for preparing historical intraday data for analysis. Most of the time, this includes importing data into a database. Clients who have third party corporate actions information may find it faster to download as-traded data and import it directly into their database and perform the necessary adjustments, formatting, and mapping therein. For these clients, Tick Data offers a number of delivery methods, including FTP download and programmatic access using TickMarket® and TickSymbol® API calls.

What is “Symbol Map Date”?

Symbol Map Date enables you to request data for a particular equity by the ticker symbol under which it traded on a particular date in the past. This is especially helpful when:

- The company for which you need data no longer trades on the exchange (i.e. the symbol is inactive now), but you still need data for this inactive symbol, or...
- The company changed its ticker symbol, but you only know the old symbol under which it used to trade.

For example, Chrysler traded in the USA under the symbol ‘C’ until Nov-12-1998. After that time, ‘C’ was used by Citigroup. If you want to receive data for Chrysler, you can request ‘C’ and specify a Symbol Map Date on or before Nov-12-1998.

Note that if you do not specify a Symbol Map Date, you will always receive data for the equity currently using the ticker symbol you requested or the equity that last used the symbol. In the above example, if you requested data for ‘C’ and did NOT specify a Symbol Map Date, you would receive data for Citigroup because it is the equity currently trading under the symbol ‘C’ in the USA.

Symbol Map Date is especially helpful when you are building a symbol universe and wish to avoid survivorship bias in your analysis. Please refer to our white paper, “*Survivorship Bias in the Development of Equity Trading Systems*” at https://s3-us-west-2.amazonaws.com/tick-data-s3/pdf/Tick_Data_Survivorship_Bias_White_Paper.pdf for additional information.



Delivery Option: TickAPI /Stream®

TickAPI /Stream® is an API-based delivery method that allows a user to request time series data for a SINGLE security and have the data STREAMED. The type of data (trade, quote, interval) is configurable as is filtering for condition codes, split adjusting, creating continuous contracts, and many additional parameters. TickAPI /Stream® belongs to a group of API-based delivered methods broadly referred to as TickAPI.

Purpose: TickAPI /Stream® is designed for users who prefer not to install 3rd party software, who seek to avoid storing and servicing large quantities of data on-site and yet, require immediate access to global trade, quote, or interval data. It is well-suited for dynamically changing symbol subsets that are generated from a daily or fundamentals-based screening processes.

Recommended Best Use: We see two very different use case categories for TickAPI /Stream®:

- 1) Users who simply prefer to request data programmatically. If you intend to store the data locally upon receipt, the API-based solution of TickAPI /Stream® is a fast alternative to traditional ftp or drive box delivery.
- 2) To entirely replace the infrastructure of data capture, storage, application of corporate actions, bar building, and presentation to analytics. You can instead employ a “consume and drop” approach to data using TickAPI /Stream®. Request data, “consume” it for analytics, and then delete it. The data is re-requested through the API if needed again. In this manner, the user always gets the benefit of updated corporate actions and data corrections. Under this approach users are paying a small fee with each data re-request but find it still provides cost savings over their older store-it-yourself infrastructure model.

Example of a TickAPI /Stream® Request:

[https://tickapi.tickdata.com/stream?COLLECTION_TYPE=COLLECTION_TYPE.LN&EXTRACT_TYPE=COLLECTOR_SUBTYPE_LN_TRADES&REQUESTED_DATA=338|COST\[20140401\]&DAYS_BACK=11&COMPRESSION_TYPE=NONE](https://tickapi.tickdata.com/stream?COLLECTION_TYPE=COLLECTION_TYPE.LN&EXTRACT_TYPE=COLLECTOR_SUBTYPE_LN_TRADES&REQUESTED_DATA=338|COST[20140401]&DAYS_BACK=11&COMPRESSION_TYPE=NONE)

- Above call will return past 11 days of trades for Costain Group PLC from the London Stock Exchange.
- Result will be uncompressed.



Delivery Option: TickAPI /Download®

TickAPI /Download® is an API-based delivery method very similar to TickAPI /Stream®, but it allows a user to request time series data for MULTIPLE symbols and have the data available for DOWNLOAD rather than streamed. Unlike /Stream, a /Download call can also be used to retrieve corporate action information (i.e. splits, dividends, and spinoffs).

Purpose: TickAPI /Download® requests can be as configurable as TickAPI /Stream® requests, and differ only in the ability to accommodate multiple symbol requests. Instead of the data being stream, the data is assembled into a compressed file and an email sent to the user with a link to download the data.

Recommended Best Use: Similar to TickAPI /Stream® but where a user requires multiple symbols for a common date range and/or corporate action information.

Example of a TickAPI /Download®Request:

[https://tickapi.tickdata.com/download?COLLECTION_TYPE=COLLECTION_TYPE.LN&EXTRACT_TYPE=COLLECTOR_SUBTYPE_LN_TRADES&REQUESTED_DATA=338|COST\[20140401\],10101|ASH\[20140401\]&DAYS_BACK=11&NOTIFICATION_EMAIL=support@tickdata.com](https://tickapi.tickdata.com/download?COLLECTION_TYPE=COLLECTION_TYPE.LN&EXTRACT_TYPE=COLLECTOR_SUBTYPE_LN_TRADES&REQUESTED_DATA=338|COST[20140401],10101|ASH[20140401]&DAYS_BACK=11&NOTIFICATION_EMAIL=support@tickdata.com)

- Above call will return past 11 days of trades for Costain Group PLC and Ashley House PLC from the London Stock Exchange.
- Result will be compressed in file named TickWrite®Out.zip.
- NOTIFICATION_EMAIL is a required parameter. An email is sent when the job is completed.

Tick Data, Inc. provides a microsite dedicated to its TickAPI classes of delivery methods: <https://tickapi.tickdata.com>.



Delivery Option: TickMarket®

Purpose: TickMarket® enables a user to programmatically request one day of as-traded data for all available symbols in a particular data set (i.e. all available symbols for USA equities).

Features:

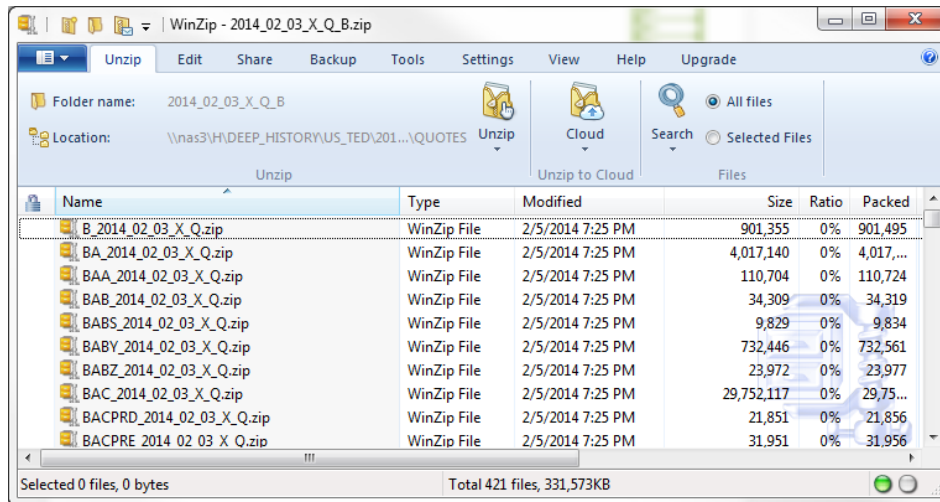
- Programmatically request as-traded data for all symbols for one day
- Submit multiple requests for multiple days
- Data is streamed immediately
- Delivered as a zipped file containing an individual file for each symbol
- Data is pre-licensed and pre-paid

Recommended Best Use: To download one or more complete data sets when time series data and a GUI are not desired or client has own corporate actions information.

Example of Request:

https://tickapi.tickdata.com/TickMarket@?COLLECTION_TYPE=DEEP_HISTORY&EXTRA_CT_TYPE=US_TED&REQUESTED_DATA=QUOTE,B&START_DATE=02/14/2014

This will return a zip file containing zip files of Level 1 quote data for all USA equities trading under symbols that start with 'B' for Feb-14-2014:





Delivery Option: TickSymbol®

Purpose: TickSymbol® enables a user to programmatically request one day of as-traded data for one symbol in a particular data set (i.e. Google traded on US exchanges).

Features:

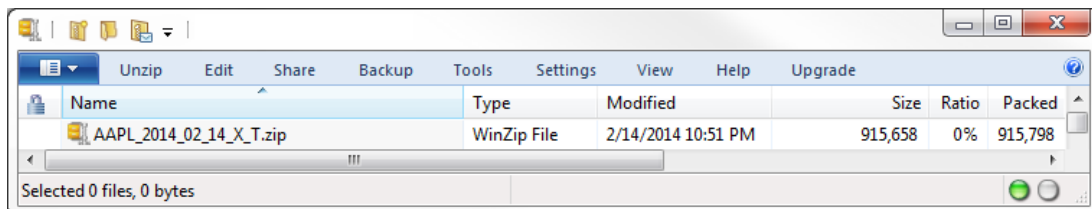
- Programmatically request as-traded data for one symbol for one day
- Allows for symbol subsets, as opposed to TickMarket®, which downloads all symbols
- Submit multiple requests for multiple days
- Data is streamed back immediately
- Delivered as a zipped file containing a text file
- Data is pre-licensed and pre-paid

Recommended Best Use: To download a custom list of symbols when time series data and a GUI are not desired or client has own corporate actions information.

Example of Request:

[https://tickapi.tickdata.com/TickSymbol@?COLLECTION_TYPE=DEEP_HISTORY&EXTRACT_TYPE=US_TED&REQUESTED_DATA=TRADE&START_DATE=02/14/2014&INSTRUMENT=24|AAPL\[20140401\]](https://tickapi.tickdata.com/TickSymbol@?COLLECTION_TYPE=DEEP_HISTORY&EXTRACT_TYPE=US_TED&REQUESTED_DATA=TRADE&START_DATE=02/14/2014&INSTRUMENT=24|AAPL[20140401])

This will return a zip file containing a single zip file of tick-by-tick as-traded trades for Apple Computer, Inc. (Symbol: AAPL) trading in the USA on Feb-14-2014:





Delivery Option: TickFTP®

Purpose: TickFTP® enables a user to request one day of as-traded data for all available symbols in a particular data set (i.e. trades or quotes on all available symbols for US equities) and receive the data via FTP download.

Features:

- Request as-traded data for all symbols in a market for one day
- Uses a traditional FTP client-server request to download data
- Delivered as a zipped file containing an individual file for each symbol
- Data is pre-licensed and pre-paid

Recommended Best Use: To download as-traded data for all symbols in a market using only an FTP client (does not require TickWrite®).

Name	Type	Modified	Size	Ratio	Packed
A_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	810,079	0%	810,204
AA_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	236,871	0%	236,911
AADR_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	330	0%	335
AAIT_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	284	0%	289
AAL_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	254,966	0%	255,006
AALCP_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	6,812	0%	6,817
AAMC_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	1,562	0%	1,567
AAME_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	876	0%	881
AAN_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	49,871	0%	49,881
AAOI_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	5,597	0%	5,602
AAON_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	12,341	0%	12,346
AAP_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	68,662	0%	68,677
AAPL_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	915,658	0%	915,798
AAPR_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	393	0%	398
AAT_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	10,718	0%	10,723
AAU_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	4,547	0%	4,552
AAV_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	4,816	0%	4,821
AAWW_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	23,336	0%	23,341
AAXU_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	25,481	0%	25,486
AB_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	29,350	0%	29,355
ABAX_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	14,310	0%	14,315
ABB_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	55,921	0%	55,931
ABBV_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	230,161	0%	230,201
ABC_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	89,817	0%	89,832
ABCB_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	5,096	0%	5,101
ABCD_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	547	0%	552
ABCO_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	20,409	0%	20,414
ABEV_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	197,530	0%	197,565
ABFS_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	22,656	0%	22,661
ABG_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	27,008	0%	27,013
ABGB_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	827	0%	832
ABI_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	272	0%	277
ABIO_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	8,600	0%	8,605
ARM_2014_02_14_X_T.zip	WinZip File	2/14/2014 10:51 PM	11,216	0%	11,221



Delivery Option: TickWrite®

Purpose: TickWrite® is a locally-installed data management tool with a convenient user interface that enables users to easily download orders, update datasets, and convert as-traded data into custom, research-ready time series files. TickWrite® runs on both Windows and Linux operating systems.

Licensing: Clients pre-license specific data sets and pre-pay. There is no charge for TickWrite®.

Recommended Best Uses: TickWrite® GUI is ideal for clients who wish to store data locally and require time series data, but do not have the resources to build tools and buy or research corporate action information.

Features: For many Tick Data clients, research-ready means historical data is formatted for use in third party analytics software without additional programming expertise or expensive corporate actions data. TickWrite® provides complete customization with these settings:

- Specify symbol(s), custom date range, start and end times, trading session(s), and many other output options
- Generate bar intervals (x-ticks per bar, y-seconds per bar, z-minutes per bar, daily, weekly, monthly)
- Format date, time, delimiter, header, and price
- Select time zone (local, exchange, or GMT)
- Customize fields to include and their order in output files
- Filter by custom parameters for specific fields
- Output file format (ASCII or compressed ASCII, zip or gzip)
- Multiple file naming options
- Generate continuous futures files with selections for how/when to roll and how to adjust for rollover gaps
- Multiple choices for outputting futures contracts (individual/all contracts)

Demo: For a first-hand look at TickWrite®, please visit <http://www.tickdata.com/demo/>

User Guide: For a detailed explanation of TickWrite's® many features, please review the User Guide: <http://www.tickdata.com/support/software-downloads/>



Questions?

www.tickdata.com

Contact Us:

Sales: +1.703.757.1370
sales@tickdata.com

Support: support@tickdata.com

Tick Data, Inc.
10134-G Colvin Run Road
Great Falls, Virginia 22066
United States of America

Data Delivery Decision Tree

Possible solution paths based on:
 (1) Database or Flat Files?
 (2) Time Series or As-Traded Data
 (3) Corporate Actions?
 (4) GUI or API preference?

