

# Estate Valuations & Pricing Systems, Inc.

## Data Flow, Data Sources and Valuation Methodology

### Summary

The valuation software included in EVP Systems' EVP Office—specifically EstateVal, CostBasis and GiftVal—all have identical data flows and calculation methodologies. CapWatch shares the data flow, but does not perform calculations.

Briefly, these applications make requests of the EVP Systems' Data Center, which then either interactively queries third-party data providers via the Web or pulls information from local databases stocked with third-party data. The result is then returned to the client applications where calculations are performed. All calculations are done according to IRS regulations and industry standards.

The majority of the data used by EVP Systems comes from ICE Data Pricing and Reference Data LLC, via queries of its RemotePlus service. Other valuation data comes from local databases loaded regularly with information from Refinitiv, NASDAQ, NYSE, QUODD Financial, Exchange Data, Lipper, Invesco, Xcitek, CoinAPI, and others.

### Data Flow

The EVP Systems client applications treat a security as a series of stand-alone pieces of raw data: a type, a name, a description, a high or ask value, a low or bid value, etc. When a valuation is requested, the client determines which pieces of data it does not have for each security and requests them from the EVP Systems Data Center. (These requests are not always everything about a security—if an existing security is re-priced on a new date, only the date-specific information is requested.)

Different types of securities—stocks, corporate bonds, government bonds, and so on—have different requirements, so the first request for a new security is always for the security type, along with other elements that each type has in common, such as a name and a currency.

The communication between the client application and the EVP Systems Data Center allows each security to request specific pieces of data individually. While these requests might result in multiple back-end queries to third-party data—the process to determine the type of a security is very complicated, for instance—the single request always produces a single response.

The default protocol used for this communication is custom-designed by EVP Systems, and does not conform to any publicly available or RFC-documented format, such as FTP or HTTP (Web Services). The connection itself is TCP/IP, inbound on ports 60000, 50000, or 30300. These ports are not defined by the Internet Assigned Numbers Authority, leaving them available for general use. This communication method is not encrypted.

Newer versions of the software (since 8.5.0) also include a “secure” evaluation option that connects to the EVP Systems Data Center using a TCP/IP HTTPS connection on port 443, encrypted via TLS 1.2. The protocol for this connection is an HTTP Tunnel that wraps the default format, above.

Both connection types also support SOCKS4, SOCKS5, and HTTP Tunnel proxies.

When the type of a security is returned to the client, it bases further requests on this response. If the security is a stock, for instance, the client application will ask for pricing data—and, as with the query for a security type, this will result in many backend requests to produce a single answer. If a high/low pricing pair is not available on the valuation date, the Data Center will search both forward and backwards for a specific amount of time, looking for trade data. If no trades are available, it will begin looking over that same range for ask/bid pairs. If it cannot find them, it will settle for market pricing. As with the security type, this information is returned to the client as a single answer, no matter how complicated the process is to assemble it.

## Data Sources

The majority of the data EVP Systems’ uses comes from ICE Data Pricing and Reference Data LLC ([www.theice.com/market-data](http://www.theice.com/market-data)), via the Web interface to their RemotePlus system ([tinyurl.com/qhr6eck](http://tinyurl.com/qhr6eck)). Local databases exist for some prices, dividends, distributions, accruals, and capital change data, and these are queried for the appropriate information before any request to ICE. S&P 500 pricing data and dividends, and precious metals prices, come from Refinitiv ([www.refinitiv.com](http://www.refinitiv.com)), via nightly FTP download. Local UIT distribution data comes from QUODD Financial ([www.quodd.com](http://www.quodd.com)) and Exchange Data ([www.exchange-data.com](http://www.exchange-data.com)), via nightly FTP downloads. Local daily accrual data comes from individual funds, via a nightly FTP downloads. Capital change data comes from Xcitek, via a nightly FTP download. Cryptocurrency prices come from CoinAPI ([www.coinapi.io](http://www.coinapi.io)), via a nightly Web Services/HTTPS download.

EVP Systems does not perform security valuations. While the company makes every effort to ensure the accuracy of the data received from vendors, EVP Systems’ software is designed to calculate and report on that data, not verify it.

## Valuation Methodology

Once a client has all the pieces of information about a security that it needs, the actual calculations can be computed. These are performed on the client's request to allow for maximum flexibility—preferences can be changed and values manually edited without requiring the server be queried for new results. Portfolio descriptive information—including decedent names, file names, report titles, numbers of shares and so on—are all stored and manipulated locally on clients' systems, and are never transmitted to or stored by EVP Systems. EVP Systems has no access to the client's personally identifiable information (PII).

All calculations are computed according to IRS regulations as defined in Form 706 Schedule B for estate valuations ([tinyurl.com/pgkdut1](http://tinyurl.com/pgkdut1)), and Form 709 ([tinyurl.com/nzn6dbs](http://tinyurl.com/nzn6dbs)) for gift valuations.

All client-side calculations are performed using 64-bit double variables, as implemented by Microsoft's VisualStudio C++ 2010. Microsoft defines doubles with a range of  $1.7^{+/-308}$  and 15 digits of precision ([tinyurl.com/ndt8hu2](http://tinyurl.com/ndt8hu2)).

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