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Introduction

IVolatility SDK is a set of software libraries which allow an easy access intraday (20-minute delayed) market data within third-party applications running on Windows platform. IVolatility SDK provides both market quotes and derivative values, such as options implied volatilities, Greeks and more.

IVolatility SDK uses ActiveX / COM objects model for easy integration into a Visual Basic, Visual C++ or .Net application. The SDK also includes a DDE server so you can get access to the continuously updating market data within Microsoft Excel (a set of sample applications is provided for a quick start).

IVolatility SDK is driven by data provided by a high-performance IVolatility.com Calculation Engine (IVCE) with market data feed from “ACTIV Financial”. The data is transferred over SSL and encrypted using RSA encryption algorithm.

As a free addition you get a set of sample Excel applications integrating power of market data with Options valuation model libraries from Intermark Financial Tool-kits for Microsoft Excel.

SDK Data coverage

IVolatility SDK gives you access to US market equities, indexes and options on these instruments (all OPRA options). The data is 20-minute delayed (real-time mode will be available soon)

With IVolatility.com SDK you can access both market quotes and implied volatility data calculated in real-time by high-performance IVolatility.com Calculation Engine. The following datasets are included:

- Individual options quotes with implied volatilities and ‘Greeks’
- Implied Volatility Index (30,60,90,120,150 and 180 day terms)
- Implied Volatility Surface (30,60,90,120,150,180,360 and 720 day terms)
- Parameterized implied volatility surface – both for actual expiries and fixed terms (to be added shortly)
- All reference data for calculation of implied volatilities

Please read more about these datasets in IVolatility.com [Knowledge Base](#)

In addition you get access to all data required for implied volatility calculation - dividends, interest rate, and complete options market structure information.

The only limitation is amount of instruments (stocks or individual options contracts) you can access and keep updated at one time – not more than 3,000. For a wider coverage (or Enterprise license) please email us at sales@ivolatility.com

Hardware and software requirements

To use IVolatility SDK you need a Windows 2000 system with Service Pack 4 installed or Windows XP Service Pack 1, Pentium-III 800 MHz processor minimum. You should have local computer administrative privileges to install the software.

Your network environment should allow a direct TCP connection to port 443 of rtvolatility.ivolatility.com. This is a standard HTTPS protocol port and you should be able to establish connection without any network configuration changes.

It is also possible to use an HTTPS proxy connection (keep in mind that that using HTTPS proxy decreases performance so this is not recommended practice). For configuring proxy access please see the next section (using “IV Gateway” utility).

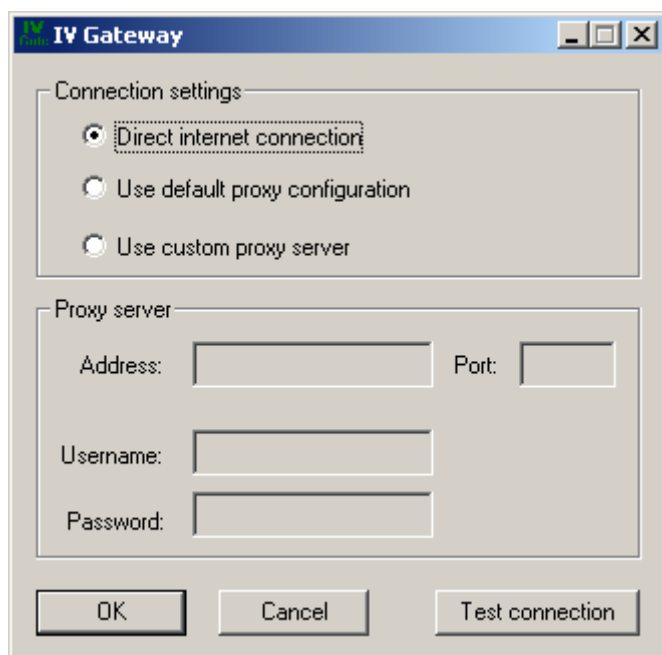
Installing and configuring the SDK.

To install the SDK please download and start the installation executable:


<http://www.ivolatility.com/ivolatilitysdk/IVolatilitySDK.exe>

All IVolatility SDK libraries are installed in %PROGRAM FILE%/Egar/IVolatility SDK/ directory. The package includes documentation, set of Dll's (dynamic libraries) and executable modules:

“IV Gateway” is a help utility to configure and verify you're the SDK connection to IVolatility.com master data server.




IVolatility SDK can access the data either directly (without a proxy) by establishing a TCP connection to **port 443** of the master data server **rtvolatility.ivolatility.com** (default configuration).


IVolatility.com SDK also supports a proxy connection; you should specify proxy server name and port in the connection utility (proxy “Basic Authentication” is supported as well – you can specify proxy access username and password). Remember that if you’re making any connections settings changes you need to restart all applications using IVolatility SDK (including DDSE.exe and IVDDE.exe – see below). When you’re using proxy connection you should always start IV Gateway utility first and make sure the application icon  is shown in the system tray.

Third option – “Use default proxy configuration” – use your system default proxy configuration (these can be configured through Windows “Control Panel” or MSIE “Internet Options”).

Please note that if you’re using proxy connection the “IV Gateway” executable should be started prior to launching any SDK tool.

Since a proxy connection is less effective than direct internet connection please always try using ‘Direct Internet connection’ option first and only if it fails, try using the proxy.

The **DDSE.exe** is a core component that is automatically launched every time you start using any application using IVolatility SDK. You do not need to start this application manually, instead it will be launched automatically and an icon  appears in the system tray.

The **IVDDE.exe** is a “DDE server” – a help utility you should start prior to accessing IVolatility SDK data in Microsoft Excel (you will also notice a new icon in system tray as well - ).

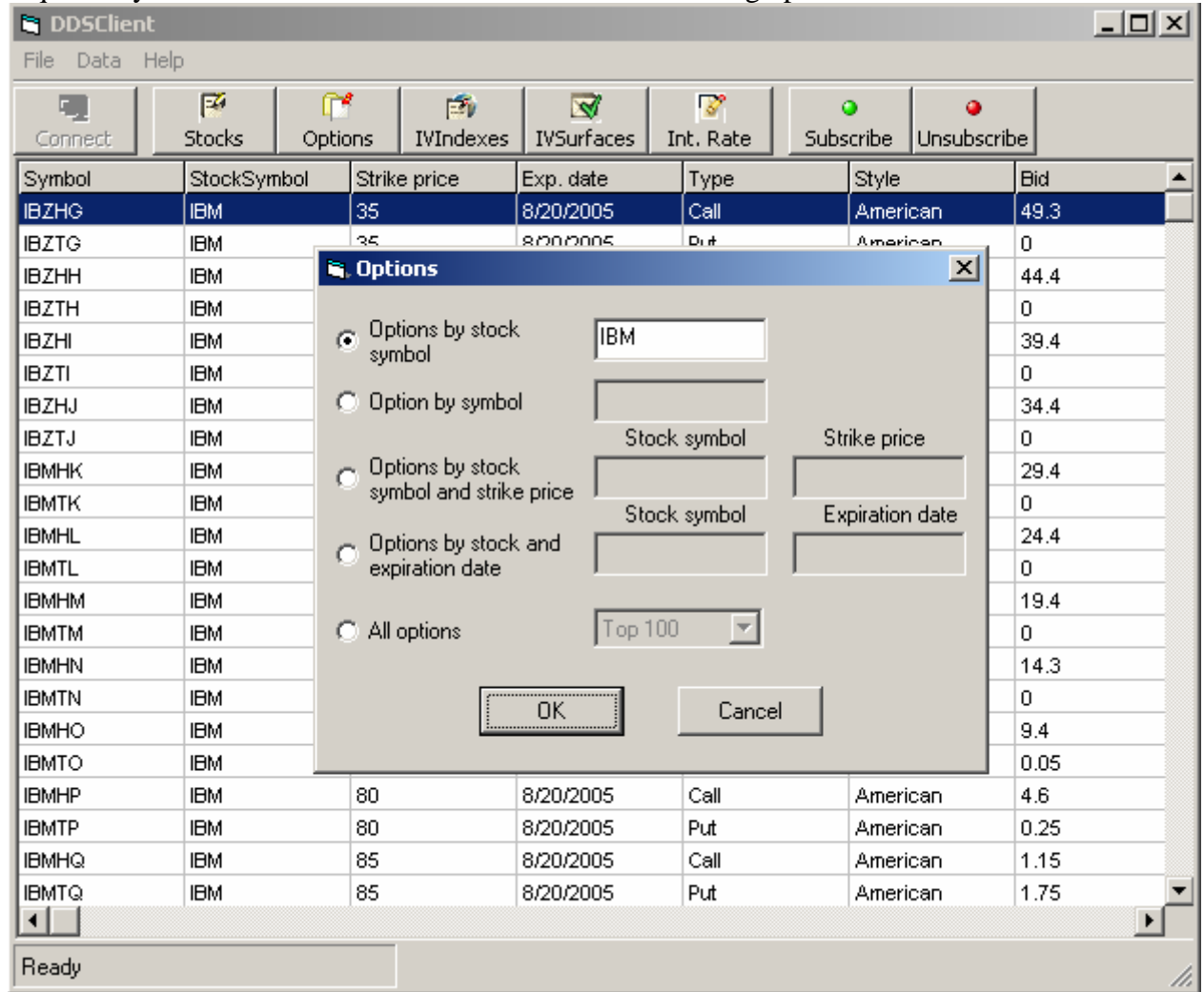
Upon the first start you will be asked to provide a username and password – please use your IVolatility.com account username and password for authorization. Both username and password will be saved locally in a configuration file so you do not need to authorize every time you’re using SDK (no simultaneous connection from different computers using same account name is allowed at one time). The configuration file (DDS.ini) is stored in %USERPROFILE%/Application Data/DDS/.

Sample application

Visual basic sample application

The IVolatility.com SDK includes sample Visual Basic applications (DDSClient.exe) demonstrating how to use all SDK functionality. Application source code is included.

The application is a simple visual interface to all datasets provided by IVolatility SDK. You can request any dataset for selected instrument and start receiving updates on selected dataset.



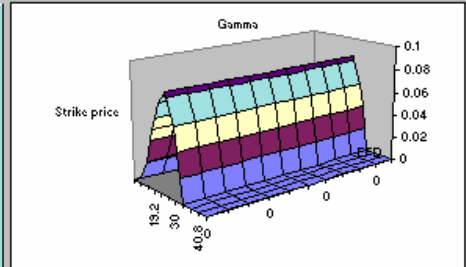
Options Analysis Toolkit

Options Analysis toolkits is a powerful extension to Microsoft Excel that support Black-Scholes and Cox-Rubinstein options valuation models. With IVolatility SDK live quotes data and fundamental information (such as dividends and interest rates) you have all required data to perform complicated risk-analysis simulation with easy-to-use interface.

EGAR Technology : Options Toolkit : Sheet1

Symbol	msft
Today's Date	22-Jul-05
Maturity date	1/20/2007 20-Jan-07
Short term interest rate	3.31%
External force of discount	0.00%
Underlying instrument price	25.77
Strike price	30 30.00
Volatility	20.00%
Option model	Cox-Rubenstein (American)
Option class	Put
Volatility Tolerance (%)	0.5
Cox-Rub Steps	300

Option Price	4.7884
Delta	-0.7206
Gamma	0.1068
Rho	-0.1490
Theta	0.0037
Theta2	0.0013
Kappa(Vega)	0.0978
Fugit	0.8393



Z - Axis	Gamma	3	Down	Up
X - Axis	Strike price	3	60%	60%
Y - Axis	EFD	4	20%	20%

Discrete Dividends
Large Graph