Nasdaq Greeks and Implied Volatility Powered by Basic v1.0

Product Overview

Nasdaq Greeks and Vols is a comprehensive data feed providing Option Greeks, Implied Volatilities, and Theoretical Prices for all U.S Option Instruments. Data is streaming during both the Regular and Extended Hours of the Equity Market Sessions with updates every 60 seconds.

Publisher

Nasdaq Investment Intelligence is a leading source of market data, global indexes, and investment data and analytics. Powering price discovery and decisions around the globe, our data is distributed to millions of people daily, providing them with innovative real-time and historical information, as well as analytic solutions designed for investors of all sizes and at every stage of the investment lifecycle. To learn more about the company, technology solutions and career opportunities, visit us on LinkedIn, on Twitter @Nasdaq, or at www.nasdaq.com.

Data Types

All numeric fields are signed big-endian (network byte order) binary encoded numbers and the timestamp is updated in milliseconds.

Delivery

Nasdaq Data Link (NDL) provides a modern and efficient method of delivery for realtime data and other financial information. Data is made available through a suite of APIs, allowing for effortless integration of data from disparate sources, and a dramatic reduction in time to market for customer-designed applications. The API is highly scalable, and robust enough to support the delivery of real-time exchange data.

This repository provides an SDK for developing applications to access the NDL API. While the SDK is open source, connecting to the API does require credentials, which are provided by Nasdaq during an onboarding process.

For more information please use the link- https://github.com/Nasdaq/CloudDataService

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Message Formats:

Heartbeat Message

Heartbeat messages are available to ensure connection to the data feed.

Heartbeat Message Details

Field	Name	Type	Description
Message Type	Msgtype	String	Value = “0”
Timestamp	Timestamp	Long	The UTC (Universal Time, Coordinated) time, giving the number of milliseconds since the Unix epoch (midnight, January 1, 1970).

Heartbeat Message Schema


```
{
  "type": "record",
  "name": "Heartbeat",
  "namespace": "com.nasdaq",
  "fields": [
   {
    "name" : "msgType",
    "type" : "string"
   },
   {
    "name": "timestamp",
    "type": "long"
   }

[
```


msgType='0'

Nasdaq Greeks and Vols Message

The following message provides streaming updates for the Option Greeks, Delta, Gamma, Vega, Theta, Rho as well as Implied Volatility and Theoretical Price for each instrument.

Nasdaq Greeks and Vols Message Details

Field Name	Name	Data Type	Description
Message Type	Msgtype	String	Value = "G"
timestamp	Timestamp	Long	The timestamp of the last update for the datapoints
Identifier/option	Option	String	Unique identifier of the options contract: Symbol + Expiration Date + Option Type + Strike Price, using OSI symbology for all US options; see https://en.wikipedia.org/wiki/Option_symbol.
underlying	Underlying	String	Underlying symbol for option.
Delta	Delta	Double	Compares the change in the price of an underlying instrument with the change in the price of the option instrument
gamma	Gamma	Double	Rate of change for an option's delta based on a single point move in the delta's price
vega	Vega	Double	Measures an option price's value relative to changes in implied volatility of an underlying instrument
theta	Theta	Double	Rate of decline in the value of an option over time
rho	Rho	Double	Measures the price change for an option relative to a change in the risk-free rate of interest
implied Volatility	Impliedvolatility	Double	Market forecast of a likely movement in a security's price
theoretical Price	theoreticalprice	Double	Estimated price of an option

Nasdaq Greeks and Vols Message Schema

- Heartbeat message - Value = 0
    - {
      "type": "record",
      "name": "Heartbeat",

"namespace": "com.nasdaq",
"fields": [
{
"name" : "msgType",
"type" : "string"
},
{
"name": "timestamp",
"type": "long"
}

msgType='0'

- Greeks and Vols Message - Value = G
  - [
    {
    "type": "record",
    "name": "greeksandvols",
    "namespace": "com.nasdaq.options.analytics",
    "fields": [
    {
    "name" : "msgType",
    "type" : "string"
    },
    {
    "name": "timestamp",
    "type": "long"
    },
    {
    "name": "option",
    "type": "string"
    },
    {
    "name": "underlying",
    "type": "string"
    },
    {
    "name": "delta",
    "type": "double"
    },
    {
    "name": "gamma",
    "type": "double"
    },
    {
    "name": "vega",
    "type": "double"
    },
    {
    "name": "theta",
    "type": "double"

},
{
"name": "rho",
"type": "double"
},
{
"name": "impliedVolatility",
"type": "double"
},
{
"name": "theoreticalPrice",
"type": "double"
}
]

Revision History – Documentation Version Log

Version	Change	Date
Nasdaq Greeks and Implied Volatility Powered by Basic 1.0	Initial Streaming Specification	July 10, 2025