Nasdaq TotalView-ITCH FAQ

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General

Q: **What symbols does TotalView-ITCH cover?**

A: Nasdaq TotalView-ITCH carries all orders sent to the Nasdaq stock market. Symbol coverage includes all Nasdaq, New York Stock Exchange (NYSE), and other US regional exchange-listed securities.

Q: **Where can I find a list of all instruments traded on Nasdaq TotalView-ITCH?**

A: At the start of each trading day, Nasdaq TotalView-ITCH disseminates stock directory messages for all active symbols in the Nasdaq execution system.

Q: **What is the schedule for daily transmission of the TotalView-ITCH data feed?**

A: Please refer to the Transmission schedule.

Q: **What is the peak packet rate capacity and what is the packet density at peak message rates?**

A: Please refer to the Bandwidth Report and the Monthly Peak Message Rate Statistics.

Q: **Where can we find multicast UDP/IP addresses?**

A: You can find a full list of addresses here: UDP/IP Addresses – U.S. Equity Market Data Feeds.

Q: **How do you read binary files from TotalView ITCH?**

A: Information on how to read these files can be found via the BinaryFILE specifications and the Nasdaq Totalview ITCH specifications. Additionally, you can refer to Parsing binary ITCH messages.

Real-Time Feed

Q: **Why am I seeing a very high ask (or very low bid) with a very large order, compared to other orders? Is this a marketable order and should these be filtered out?**

A: The order you are seeing is referred to as a "stub quote," which is a real order. A stub quote is an offer to buy or sell a stock at a price far away from the prevailing market that it is not intended to be executed. Filtering of such quotes depends on customer use case.

Q: **During an Operational Halt for a particular exchange, will we receive a Stock Trading Action Message along with an Operational Halt for the exchange?**

A: Operational halts and Trading states are independent of each other. Each message is sent for a different reason. If a security is operationally halted, an Operational Halt message will be sent. Whereas, if a regulatory halt is declared on the same instrument, a Stock Trading Action message will be sent, with Trading State "H".

Q: **When an Operational Halt Message is received, will all the existing orders on the book be cancelled?**

A: Resting orders will not be automatically cancelled upon the triggering of an operational halt. Subsequent action, depending on the nature of the halt, may be taken where orders will be cancelled prior to resuming trading.

Q: In ITCH, when a price is published in the Opening Cross Trade (Message Type 'Q' – Cross Type 'O'), will that price become the Nasdaq Official Opening Price (NOOP)?

A: Yes, the price published by the opening cross trade will set the NOOP. This includes odd lot trades.

Q: What orders are included when calculating the imbalance side and quantity? Are all Limit-On-Open/Limit-On-Close orders included, regardless of their limit prices?

A: Please refer to the FAQ for Opening/Closing Crosses:
https://www.nasdaqtrader.com/content/ProductsServices/Trading/Crosses/openclose_faqs.pdf

Q: Can the same Match Number be assigned to more than one transaction? E.g., if an aggressing order executes against three passive orders, would those three transactions all have the same Match Number?

A: No, there is one match number per execution.

Q: Does the TotalView-ITCH feed provide details on the order type that was used?

A: No, the TotalView-ITCH feed does not have a field that identifies the order type.

Historical TotalView-ITCH

Q: How large is the average Historical TotalView ITCH file?

A: The file sizes vary by version and the files on the server are compressed.

Version 5.0 files average 5-10 GB compressed and 15-25GB uncompressed.

Prior version files average 2-4GB compressed and 5-10GB uncompressed.

Q: How are the files named and organized?

A: The naming format of the TotalView files is 'S mm:dd:yy - version number'. For example, files from version 5 are named as S010215-v50.txt.gz and from version 4.1 are named as S092614-v41.txt.gz. The files are in .gz Binary format.

The files are organized on basis of which version they belong to ranging from V2 with the oldest files to V5 with the latest files.

TotalView-ITCH 5.0 format – April 7, 2014 and forward Folder name (itchfiles_v5)
TotalView-ITCH 4.1 format – May 1, 2010 - September 26, 2014 Folder name (itchfilesarchive_v41)
TotalView-ITCH 4.0 format – January 12, 2009 - July 30, 2010 Folder name (itchfilesarchive_v4)
TotalView-ITCH 4.0f format – June 2009 - August 2009 Folder name (itchfilesarchive_v4f)
TotalView-ITCH 3.0 format – August 13, 2007 - January 16, 2009 Folder name (itchfilesarchive_v3)
TotalView-ITCH 2.0 format – Prior to August 17, 2007 Folder name (itchfilesarchive_v2)

File containing Nasdaq net order imbalance data (NOII):
Standalone NOII data file offered as of January 4, 2010
NOII data included in the full TotalView-ITCH data log files as of August 13, 2007

Q: Why is there overlap for dates covered by different TotalView-ITCH versions?

A: Overlapping versions allow consumers to run parallel testing while accommodating for version changes. Within the specifications, there is a version control section with specifics you can use to compare versions.

Sample

Q: Do you have a sample of the Nasdaq TotalView ITCH raw data and how to interpret this raw data according to the ITCH Specification?

A: Below is the link for sample data for Nasdaq TotalView ITCH.

Sample data: https://emi.nasdaq.com/ITCH/Nasdaq%20ITCH/

Here are instructions to read these binary files. Additionally, you can also refer How to parse binary ITCH file (Python Example).