Fractional Number Representation Update

To: all dxFeed market data subscribers

With the previous Increased Precision release we added more significant digits to the fractional number representation of the CME and cryptocurrency feeds. So, precision in the price, size and volume fields was extended to support a significand of 16 digits. Now we are broadening the scope of this increase in precision to all data services.

On **June 1, 2020** dxFeed will begin the successive rollout of fractional number representation to all our services (including real-time, historical and aggregated data), starting with CTS/CQS data.

Increased precision for price, turnover, size and volume fields

dxFeed enhances its systems to extend number representation to 64 bit. It now supports mantissas of up to 16 decimal digits and exponents ranging from -127 to 127 decimal positions.

"asDouble" methods are added to allow access to the increased precision in sizes and volumes. They return the values of size and volume fields as floating point numbers with fractions.

Example:

- **getVolume** returns total volume as integer number
- **getVolumeAsDouble** returns total volume as a floating point number with fractions

Technical details

To enable the support of increased precision, do the following:

- Migrate to the latest dxFeed API version for streaming feeds
- If you're using Java API:
- Enable the increased precision mode via the JVM properties (-Ddxscheme.wide=true). Upon full migration the increased precision will be available by default.
- For other APIs, please contact us at dxFeed Help Desk
- Use "asDouble" methods to get access to the increased precision in sizes and volumes for the following fields:
  - Candle:
    - volume
    - bidVolume

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- askVolume
- openInterest
- Order:
  - size
- Quote:
  - bidSize
  - askSize
- TimeAndSale:
  - size
- Trade,TradeETH:
  - size
  - dayVolume

NOTE: You will have to update your services to handle both 'NaN' and '0' values in the fields mentioned above in the data you stream or download irrespective of whether you're enabling the increased precision.

Testing
Symbols AXP, BAC, IBM, PFE, XOM are already available for preview and testing at demo.dxfeed.com:7300.

Effective date
Increased price precision rollout will begin on **June 1, 2020** with CTS/CQS data. Please make sure to adjust your services by this date. Other data feeds will be updated gradually.

Please refer to dxFeed Help Desk if you have any questions or concerns.