Cboe End-of-Day ETP Key Values Feed Specification

Version 1.0.5

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Contents

1 Introduction

The Bats End-of-Day ETP Key Values Feed is designed to provide ETP issuers with end-of-day data for each symbol listed on the BZX Exchange.

2 Protocol

2.1 Format

The file is available as a pipe-separated file. It has a header row with the column names in that header row.

Cboe reserves the right to add additional columns to the file without any advance notice. Recipients of the file should design their systems to ignore any new columns that have not been defined by this specification.

2.2 Availability

The file is generally available sometime between 10:30 p.m. ET and 12:30 a.m. ET and may be downloaded from a Cboe FTP server. By special arrangement, it is generally possible for Cboe to SFTP the file to an issuer.

2.3 File Name

The file name can be requested by the issuer as long as it fits these parameters:

- can include the date as YYYY-MM-DD (e.g., "our_etf_file_2016-05-11.psv")
- can include the date as YYYYMMDD embedded in the name (e.g., "our_etf_file_20160511.psv")
- can include the time as HHMMSS embedded in the name (e.g., “our_etf_file_231211.psv”)
- all other characters must be of a fixed nature and cannot be a name that is already taken

3 File Layout and Field Documentation

The following rules apply to the file layout.

- All fields will be separated by pipes (|).
- The absence of a field will be represented by two consecutive pipes (||).
- If the last field is absent, then the last character will be the pipe that precedes that field.
- The standard Linux end of line character (typically denoted as \n) follows each row.

Field Name	Data Format	Notes
Trade Date	Text, MM/DD/YY	
Symbol	Text	
IssueName	Text	
PrimaryExchange	Text, single character	Will always be 'Z'
SharesOutstanding	Integer	
Volume	Integer	Shares traded on the BZX Exchange for the *Trade Date*. Zero if no volume traded on the *Trade Date*.
High	Decimal, 2 places	High trade price on the BZX Exchange for the *Trade Date*. Pre and Post Market trades are included as well as odd lot trades. Blank if no volume traded on the *Trade Date*.
Low	Decimal, 2 places	Low trade price on the BZX Exchange for the *Trade Date*. Pre and Post Market trades are included as well as odd lot trades. Blank if no volume traded on the *Trade Date*.
Close	Decimal, 4 places	The Official Closing Price as determined by the BZX Exchange. Populated even when volume is zero.
12 Noon Bid	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 12:00 ET; blank if the BZX Exchange does not have a displayed bid at that time
12 Noon Offer	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 12:00 ET; blank if the BZX Exchange does not have a displayed ask at that time
12 Noon Bid/Offer Midpoint	Decimal, 2 places	The average of the *12 Noon Bid* and *12 Noon Offer*; blank if one or both values is blank
4PM Bid	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 16:00 ET; blank if the BZX Exchange does not have a displayed bid at that time

4PM Offer	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 16:00 ET; blank if the BZX Exchange does not have a displayed ask at that time
4PM Bid/Offer Midpoint	Decimal, 2 places	The average of the *4PM Bid* and *4PM Offer*; blank if one or both values is blank
4:15PM Bid	Decimal, 2 places	The price of the highest displayed bid quote on the BZX Exchange at 16:15 ET; blank if the BZX Exchange does not have a displayed bid at that time
4:15PM Offer	Decimal, 2 places	The price of the lowest displayed offer quote on the BZX Exchange at 16:15 ET; blank if the BZX Exchange does not have a displayed ask at that time
4:15PM Bid/Offer Midpoint	Decimal, 2 places	The average of the *4:15PM Bid* and *4:15PM Offer*; blank if one or both values is blank
Last Trade Price	Decimal, 2 places	The price of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Odd lot trades are included. Blank if no trade in the last 45 days.
Last Trade Date	Text, MM/DD/YY	The date of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Blank if no trade in the last 45 days.
Last Trade Time	Text, HH:MM:SS.mmm	The time of the last trade on the BZX Exchange during regular trading hours within the last 45 days. Blank if no trade in the last 45 days.
Closing NAV	Decimal, 6 places	The NAV as of the end of the day, as provided by a SIP processor or other source
Last Trade to NAV ($Amt)	Decimal, 6 places	The *Last Trade Price* less the *Closing NAV*
Last Trade to NAV ($Percent)	Decimal, 6 places	The *Last Trade to NAV ($Amt)* divided by the *Closing NAV* and multiplied by 100 to express the number as a percentage
Bid/Offer Mid to NAV ($Amt)	Decimal, 6 places	The 4*:15PM Bid/Offer Midpoint* less the *Closing NAV*
Bid/Offer Mid to NAV ($Percent)	Decimal, 6 places	The *Bid/Offer Mid to NAV ($Amt)* divided by the *Closing NAV* and multiplied by 100 to express the number as a percentage
Total Consolidated Volume	Integer	The total consolidated volume traded for the symbol
4PM Consolidated Best Bid	Decimal, 2 places	The price of the highest displayed bid quote across all exchanges at 16:00 ET.
4PM Consolidated Best Offer	Decimal, 2 places	The price of the lowest displayed offer quote across all exchanges at 16:00 ET.

4PM Consolidated Bid/Offer Midpoint	Decimal, 2 places	The average of the *4PM Consolidated Best Bid and Offer*.
Median Bid-Ask Spread (**effective 6/1/20**)	Percentage, rounded to nearest hundredth	The median value of the National Best Bid and National Best Offer spread divided by the NBBO midpoint at the end of each 10 second interval during the trading day for the last 30 calendar days.
4PM VIIV (**effective 6/1/20**)	Decimal, 6 places	The 4 pm Verified Intraday Indicative Value (VIIV) for Managed Portfolio Share ETPs.

4 Support

Unexpected data values or requests for changes to the data should be forwarded through the issuer's normal Cboe business contacts or the Cboe Trade Desk (tradedesk@cboe.com – 913.815.7001). Cboe hours of operational support are 6 a.m. – 8 p.m. ET.

Revision History

Document Version	Date	Description
1.0.0	05/16/16	Initial version 1.0.0.
1.0.1	10/17/17	Cboe branding/logo changes.
1.0.2	06/13/18	Updates to definitions of *Last Trade Price, Last Trade Date,* and *Last Trade Time*. These fields will reflect the last trade during regular trading hours on the BZX Exchange within the last 45 days. The *Close* field is updated to reflect the Official Closing Price as determined by the BZX Exchange. Added the *Total Consolidated Volume* field (effective 8/1/18).
1.0.3	06/15/18	File delivery delayed from 10:30 p.m. ET to 12:30 a.m. ET as a result of changes to *Last Trade* calculations. Cboe reserves right to add additional columns without notice. Additional clarifications about values sent when there is no volume for a given *Trade Date*.
1.0.4	08/29/18	Added 3 new fields to file - 4PM Consolidated Best Bid, 4PM Consolidated Best Offer, 4PM Consolidated Bid/Offer Midpoint (effective 9/14/18). Updated *Close* to Decimal, 4 places.
1.0.5	05/20/2020	Added 2 new fields to the file – Median Bid-Ask Spread and 4PM VIIV (**effective 6/1/20**).