

4. Expansion of market data

FLEX
Standard
·
FLEX
Light

■ Expand data targeting wide range of users, including individual investors

① Expand bid/offer data

- » Expand depth of best bids/offers from 5 to 8
- » (new) Provide summary of number of bids/offers outside of best 8 bids/offers
- » (new) Provide data on the number of market orders
 - provide data where market orders are not immediately executed, eg. during pre-auction, when special quote is displayed.

② Expand base price data

③ Subdivide time stamp (from per minute to per second)

Display market orders,
and unexecuted orders

Expand depth from 5 to 8 quotes

複数気配画面

銘柄	XYZ		
現在値	4,320	前日比	-30
		出来高	4,910,500
売	値段	買い	
5,900	4,380		
127,200	4,370		
55,800	4,360		
39,400	4,350		
23,800	4,340		
	4,320		141,500
	4,310		89,900
	4,300		159,300
	4,290		42,000
	4,280		41,600

4. Expansion of market data

**FLEX
Full**

■ Expand data with algorithmic trading in mind

- ① Provide all order book (Ita) data
 - » Last traded price, bid/offer price, at-the-close orders, trading volume, trading value
- ② Update order book (Ita) data with feed containing only differences
- ③ Set time stamp in units of 0.1s

複数気配画面

銘柄	XYZ		
現在値	4,320	前日比	-30
		出来高	4,910,500
売り	値段	買い	
5,900	4,380		
127,200	4,370		
55,800	4,360		
39,400	4,350		
23,800	4,340		
	4,320		141,500
	4,310		89,900
	4,300		159,300
	4,290		42,000
	4,280		41,600

Display no. of
at-the-close orders

Provide all bids and offers data

Display orders better than best bid/best
offer before Itayose at market opening

5. Working towards lower latency: arrownet

Super high-speed network (Low latency)

- Construct a super high-speed and low-latency network in response to developments in trade execution technologies which require high speed processing such as algorithmic trading and automatic trade execution
- Low latency from access points to business segments

WDM MPLS ring net (Durability)

- Construct a safe backbone ring network with separate backup route and buried optical fiber cables, in preparation for wide-area disasters such as large-scale earthquakes
- Secure sufficient bandwidth in preparation for future expansion

Social responsibility (Business continuity)

- Ensure high system availability of an infrastructure that is of extreme social importance, forming the base of public goods of securities markets in Japan
- Ensure business continuity through a backup center

Global cooperation (Business development)

- Construct a network ring that supports connections to both domestic and overseas network rings in response to globalization of market participants and diversification of trading methods

6. Conclusion

- » **The TSE group will continue to strive to make progress in constructing an attractive market with your company through arrowhead.**

arrowhead 

arrownet 

- » About the name
- » “arrow” symbolize speed and indicate high-speed processing capability centered around system response.
- » Robustly tipped heads that seem to be able to pierce any barrier express durability.
- » Exclusive use of lower case in all instances express scalability and flexibility.

- » About the logo
- » arrowhead and arrownet logos are made up of text and 2 arrows pointing to the right.
- » Simple design express speed and innovation.