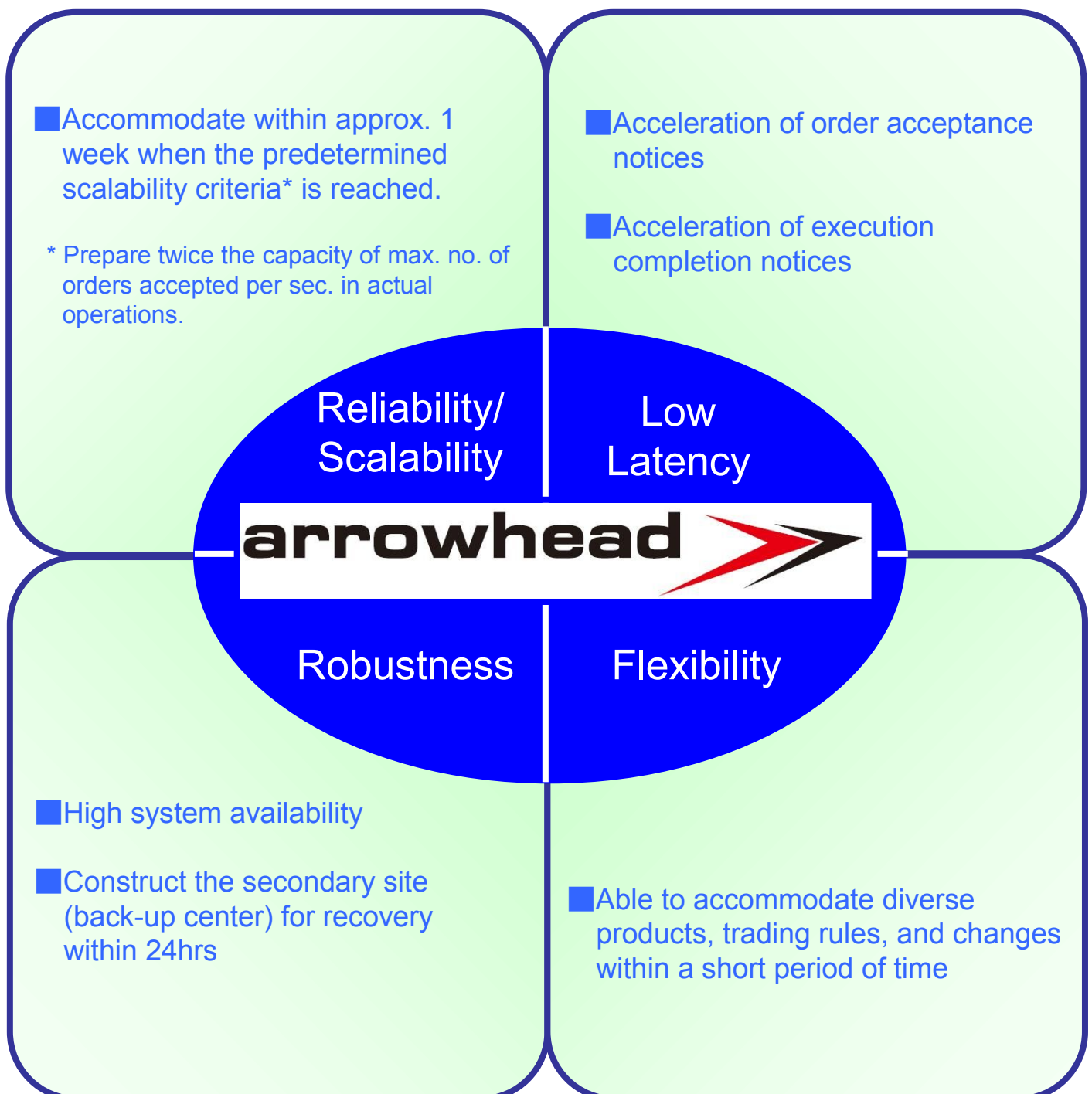


On January 4, 2010

**“arrowhead” (next-generation trading system)  
will be activated!**

- The Tokyo Stock Exchange will **operate the next-generation trading system, “arrowhead,” which has low latency, reliability, scalability of the highest global standard** to achieve high speed order placement and execution processing to meet the needs of market users, in response to reductions in sizes of orders and rapid increases in the number of transactions.
- Auction trading of all cash products (stocks, convertible bonds, etc.).
- Due to recent IT developments, it is now possible to trade while monitoring real-time market data, and the share of internet trading by individual investors is growing. After the launch of arrowhead, you will be able to trade on a lightning fast speed in a highly reliable system.



**Point 1**

Due to high speed execution, when placing a market order in particular, execution may take place at unexpected prices.

- With high speed execution, sharp fluctuations in prices may occur depending on order conditions ■
- During the time from order placement by a customer after visual confirmation of the order book, order placement through the trading participant (securities company), to entry of the order into the order book after arrowhead processing, execution of a large volume, possibly in the scale of hundreds, of orders could have already occurred. ■
- Caution is advised, in particular, when placing market orders, as execution may occur outside a price range you were initially expected. ■

(E.g.) Current price JPY100 → Place market buy order of 10 units

Cumulative Sell	Sell	Price	Buy	Cumulative Buy
7		M.O.	10	10
7	2	102		
5	5	101		10
		100	1	11
		99	4	15
		98	3	18

Place 10 units of buy M.O.

**Current order book**

Sell	Price	Buy
	M.O.	10
2	102	
5	101	
	100	1
	99	4
	98	3

Execute 5 units at JPY101

After a few seconds

Sell	Price	Buy
	M.O.	5
2	102	
	101	
	100	1
	99	4
	98	3

Execute 2 units at JPY102

Execution every few seconds

**arrowhead order book**

Sell	Price	Buy
	M.O.	10
2	104	
1	103	
2	102	
5	101	
	100	1

Immediate execution of 10 units of buy M.O. against sell orders between JPY101-104

Immediate

Sell	Price	Buy
	M.O.	
	104	
	103	
	102	
	101	

The price looks as if it has jumped instantaneously to JPY104

## Point 2

## Partial revision of trading rules with arrowhead launch

	Till Wed., Dec. 30, 2009 (current system)	From Mon., Jan. 4, 2010 (arrowhead)
Rule for Allocation of Simultaneous Orders (orders that are placed before opening price is determined, etc.)	<ul style="list-style-type: none"> <li>After totaling for each trading participant,               <ol style="list-style-type: none"> <li>5 cycles of 1 unit each,</li> <li>1/3 of remaining units placed,</li> <li>1/2 of remaining units placed,</li> <li>remaining units placed. (For stop allocation at daily limit price, pro rata ratio applies from step ② onwards.)</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>After totaling for each trading participant, allocate 1 unit to each in turn.</li> </ul>
Half-day trading sessions (First and last trading days of the year)	•Full-day trading session, including Wed., Dec. 30, 2009.	•Full-day trading session.
Tick sizes	(See next page)	<ul style="list-style-type: none"> <li>Finer-tuned tick size structure in consideration of overall balance and simplicity.</li> <li>E.g., Tick size in the JPY2,000 range will be changed to JPY1. (see next page)</li> </ul>
Daily price limits, special quote renewal price intervals, etc.	(See next page)	<ul style="list-style-type: none"> <li>Slight expansion in consideration of overall balance and simplicity. (No change in time intervals to renew special quotes)</li> <li>E.g., Daily limit price range of issues with price more than or equal to JPY700 but less than JPY1,000 will be changed to JPY150 (currently JPY100). (see next page)</li> </ul>
NEW! Sequential trade quote	•N.A.	<ul style="list-style-type: none"> <li>When sequential execution of a single buy/sell order causes the price to exceed the last execution price plus/minus twice the daily price limit, a sequential trade quote will be displayed for 1 minute, and then the order is matched by Itayose method. (see figure below)</li> </ul>
Matching Conditions during Itayose and Stop Allocation	<ul style="list-style-type: none"> <li>All market orders and limit orders at better prices</li> <li>All limit orders at the matching price on one side of order book</li> <li>At least one trading unit on the other side at the matching price of the order book is executed. During stop allocation, there is no execution if each trading participant is not allocated at least one trading unit.</li> </ul>	<ul style="list-style-type: none"> <li>Abolish condition ③. E.g., In the case of a locked order book, an order will be matched at a price near the last execution price. During stop allocation, an execution will occur if there is at least one trading unit on the other side of the order book.</li> </ul>

### (New) Sequential Trade Quote

	M.O.	Place 10 buy M.O. Execute 3 units at JPY101	10			
2	112			2	112	
1	111			1	111	
	110				110	
4	108			4	108	
1	104			1	104	
3	101			3	101	
	100				100	
	99	2			99	23

	M.O.	7				
2	112			2	112	
1	111			1	111	
	110				110	
4	108			4	108	
1	104			1	104	
	101				101	
	100				100	
	99		Execute 1 unit at JPY104		99	23

	M.O.	6				
2	112			2	112	
1	111			1	111	
	110				110	
4	108			4	108	
	104				104	
	101				101	
	100				100	
	99		Execute 4 units at JPY108		99	23

	M.O.	2				
2	112			2	112	
1	111			1	111	
	110				110	
	108				108	
	104				104	
	101				101	
	100				100	
	99				99	23

#### (Assumptions)

- Zaraba (continuous auction)
- Last execution price: JPY100
- Special quote renewal price interval: JPY5
- Sequential trade quote: JPY10\*
- \* Sequential trade quote is the last execution price plus twice the special quote renewal price interval.

You might expect that 1 unit will be executed at JPY111. However, because this price exceeds the sequential trade quote (JPY110) a sequential trade quote (K) is displayed for 1 minute.

## Partial revision of tick sizes

Price (JPY)		Tick sizes (JPY)	
		Current	Revised
~	2,000	1	1
2,000	~ 3,000	5	1
3,000	~ 5,000	10	5
5,000	~ 30,000	10	10
30,000	~ 50,000	50	50
50,000	~ 300,000	100	100
300,000	~ 500,000	1,000	500
500,000	~ 1,000,000	1,000	1,000
(and above)	(less than)	(subsequent data is omitted)	

## Partial revision of daily price limits and special quote renewal price intervals

Price (JPY)		Daily price limits (JPY)		Renewal price intervals (JPY)	
		Current	Revised	Current	Revised
~	100	30	30	5	5
100	~ 200	50	50	5	5
200	~ 500	80	80	5	8
500	~ 700	100	100	10	10
700	~ 1,000	100	150	10	15
1,000	~ 1,500	200	300	20	30
1,500	~ 2,000	300	400	30	40
2,000	~ 3,000	400	500	40	50
3,000	~ 5,000	500	700	50	70
5,000	~ 7,000	1,000	1,000	100	100
7,000	~ 10,000	1,000	1,500	100	150
10,000	~ 15,000	2,000	3,000	200	300
15,000	~ 20,000	2,000	4,000	200	400
20,000	~ 30,000	3,000	5,000	300	500
30,000	~ 50,000	4,000	7,000	400	700
50,000	~ 70,000	5,000	10,000	500	1,000
70,000	~ 100,000	10,000	15,000	1,000	1,500
100,000	~ 150,000	20,000	30,000	2,000	3,000
150,000	~ 200,000	30,000	40,000	3,000	4,000
200,000	~ 300,000	40,000	50,000	4,000	5,000
300,000	~ 500,000	50,000	70,000	5,000	7,000
500,000	~ 700,000	100,000	100,000	10,000	10,000
700,000	~ 1,000,000	100,000	150,000	10,000	15,000
(and above)	(less than)	(subsequent data is omitted)			

\* The price limits and renewal price intervals for the JPY1 million and JPY10 million ranges shall be 10 times and 100 times, respectively, of the JPY100,000 range. For prices of JPY5 billion or more, the price limits and renewal price intervals will be fixed at those for JPY50 million.

For details, please browse “arrowhead Square” on the TSE homepage.

<http://www.tse.or.jp/english/rules/equities/arrowhead/index.html>

### ■ Note ■

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