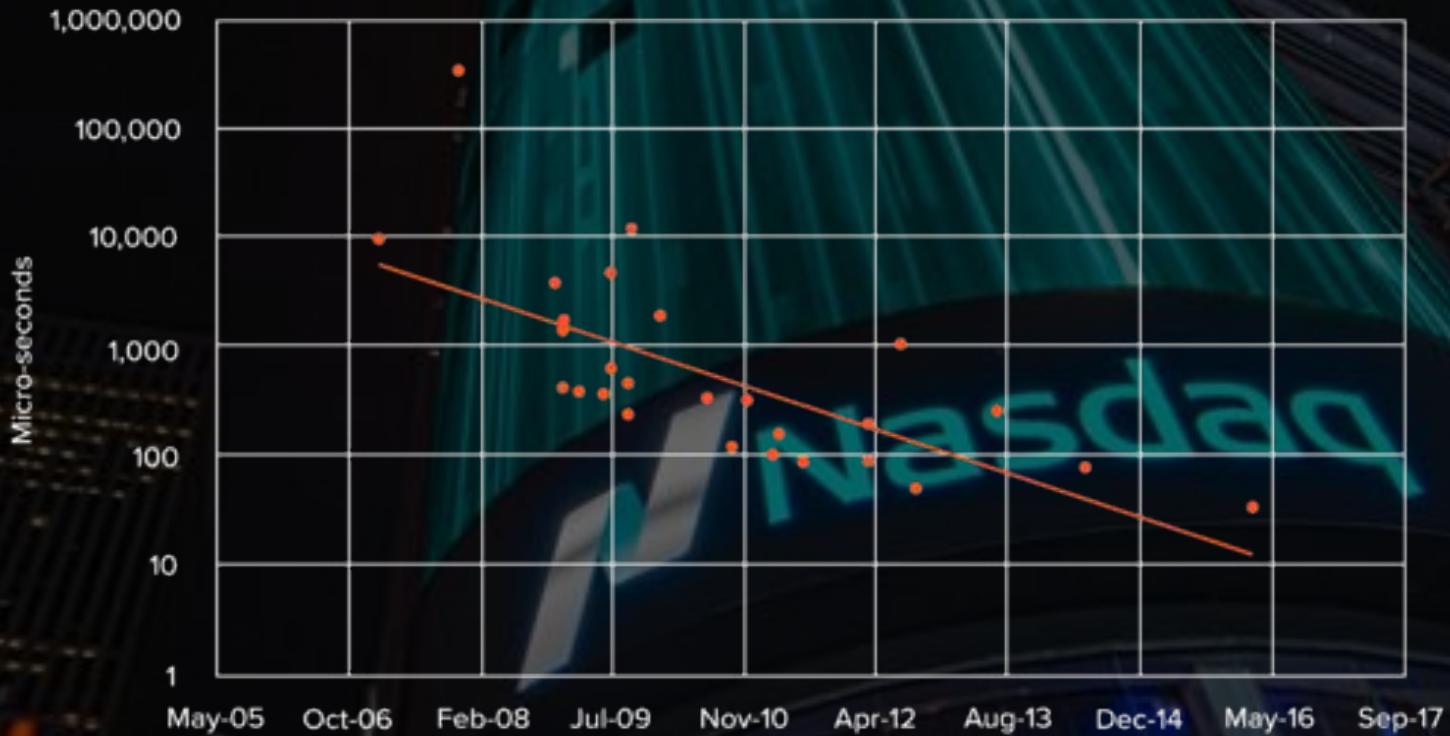


MACHINE-TIME ANALYTICS

To Safeguard Business in a Machine World

Exchange Order Response Times



We Have Seen This Movie

Trading becomes a blur. It is much harder to see and make sense of what is going on. The performance and predictability of trading systems becomes critical for success. Infrastructure failure or mishap has a disproportionate impact. Business becomes more vulnerable to cyber attack. Operating risk rises to a new level. Regulation goes into to overdrive.

All of this happens in machine-time!

Real-Time

Humans think of something as real-time if it responds within a second

Machine-Time

The time it takes a machine to act or respond

The Machine Era

"The new challenge is not speed, it is time. Those who can tell time more accurately in a machine world and derive intelligence from this knowledge will gain the competitive advantage."

Machine-Time Analytics

Starts with the ability to continuously monitor, analyze, track and forensically verify the precise time and sequence of all machine actions and events involved in executing a task.

The Pillars

For Machine-Time Analytics

Granular
Data

Accurate
Time

Machine
Learning

Streaming
Analytics

ION Multi-Leg Order Analysis: ION Order ID: -5501@G2414-299.Leg2

Customer Fill to tick

Leg1 - Leg2 Decision Time

Hung Order Notional

11.557 ms

22.480 ms

120





A New Player

THE MACHINE-TIME TRADER

MACHINE-TIME ANALYTICS

Execution
Intelligence

Infrastructure
Transparency

Regulatory
Compliance

Performance
Optimization

Cyber-Threat
Surveillance