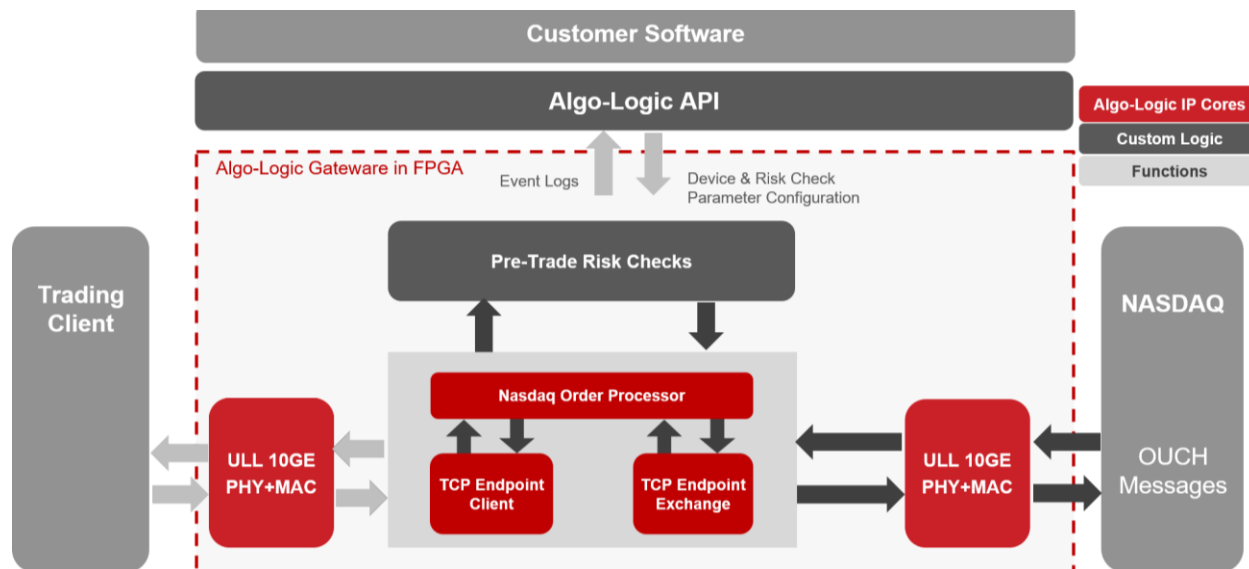


Algo-Logic Pre-Trade Risk Check System (PTRC)



Description

Algo-Logic Systems delivers an industry leading Pre-Trade Risk Check (PTRC) solution that verifies Security and Exchange Commission Rule 15c3-5 compliance with sub-microsecond latency that is consistently lower than software-based systems. The system enables broker/dealers to forward stock market orders from client machines to exchanges with nearly no added delay nor jitter.

With an easy to use and secure, Graphical User Interface (GUI), broker/dealers can easily configure a wide range of risk check parameters to ensure compliance and protection prior to execution. Pre-Trade Risk Checks and associated control actions are accelerated in the FPGA.

Accurate Logs within the PTRC system ensure compliance can be verified.

- Logs record total number of messages sent to Exchange (Failing orders not included)
- Record the total number of messages sent to the Trading Client
- Record all Rejected Order messages generated for each failing order.

Whereas, software based PTRC implementations add many microseconds to milliseconds of latency to order flow, Algo-Logic's FPGA accelerated solution allows trading on 10 Gigabit/second Ethernet links to complete a series of comprehensive Risk Checks in well under one microsecond. Unlike other in-house and vendor PTRC solutions that take short cuts and forward invalid packets, Algo-Logic's newest PTRC solution never emits data to an exchange that is not intended to execute.

Algo-Logic PTRC is:

- The newest addition to Algo-Logic's Ultra-low-latency systems for accelerated finance.
- Offers deep sub-microsecond latency from Client Order Received to Valid Order Sent to Exchange.
- Is easy to use and has a secure Graphical User Interface to control parameters of Risk Checks.
- Provides Standard Rule 15c3-5 Risk Checks that are available immediately.
- Produces custom, Broker specific Risk Checks quickly under a Professional Services Agreement.
- Is significantly faster than software-only solutions.
- Yields a deterministic performance with deep sub-microsecond latency.

Key Features

- Provides SEC Rule 15c3-5 Risk Check compliance.
- Customization available for Broker unique Risk Checks
- Significantly faster than software only Risk Check systems.

FPGA Accelerated Pre-Trade Risk Check System

Equity Order Risk Check	Description
Maximum Order Quantity	Total Qty of shares > Max Order Qty
Maximum Order Value	Total Value of Order > Max Order Value
Max Range Share Price - Last Order	Order Share Price is greater than x% or less than x% of Last Order
Max Share Price - NBBO/BBO	Max Order Share Price > Current NBBO/BBO
Min Share Price - NBBO/BBO	Min Order Share Price < Current NBBO/BBO
Allowed to Short	Order Symbol is not on Easy to Borrow List
Restricted Stock List	Order Symbol is on the Restricted Stock List
Throughput Limit - Max Order/sec	Order rate > Max Orders/second
Breach Risk Max Risk Check fails	Risk Check Failures Greater than Max Risk Check Failures allowed

Typical Configuration – Xilinx® Alveo™ Card in Dell R740

- Preconfigured Dell R740 Server
 - Chassis with GPU Risers
 - Configuration with Xilinx® Alveo™ U200 Accelerator Card
- PTRC License from Algo-Logic
 - FPGA bitstream Gateware
 - Graphical User Interface

