

Pure FPGA Market
Data Solutions

# Full FPGA NBBO and ETF Calculators

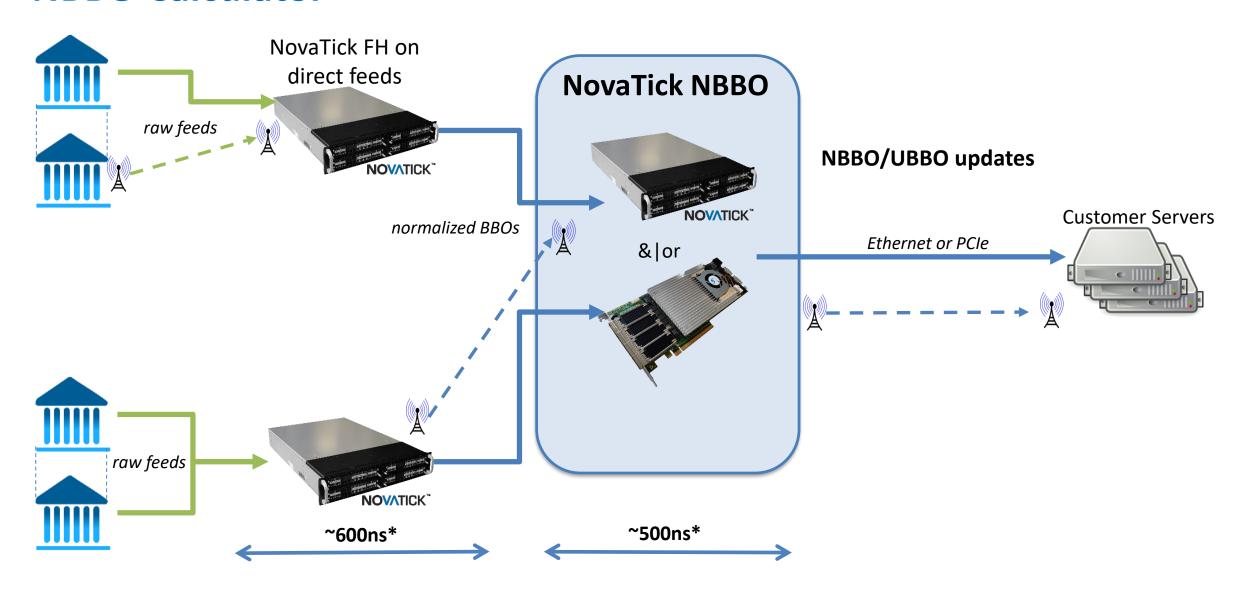
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October 17, 2019

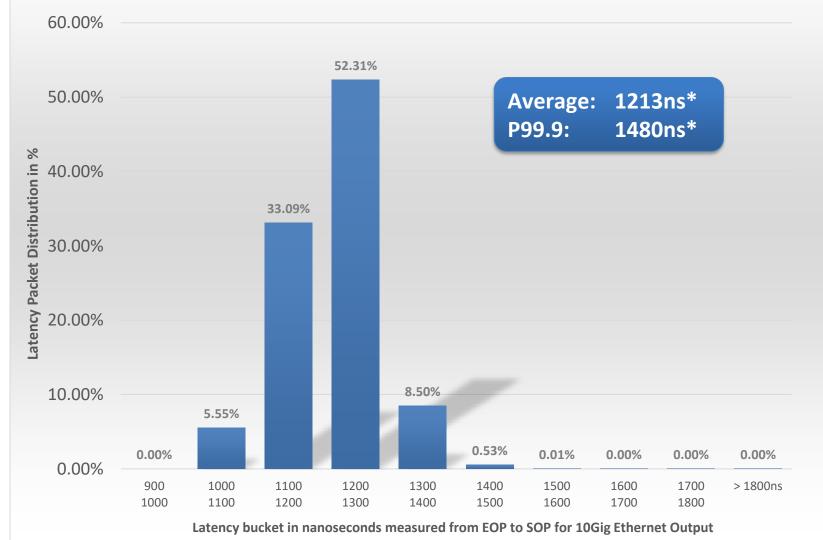


# **NBBO Calculator**



# **Consolidated US Equities on NovaTick Appliance**

Book Building + NBBO - Entire symbol universe for NASDAQ 3 markets, CBOE 4 markets, NYSE 3 markets



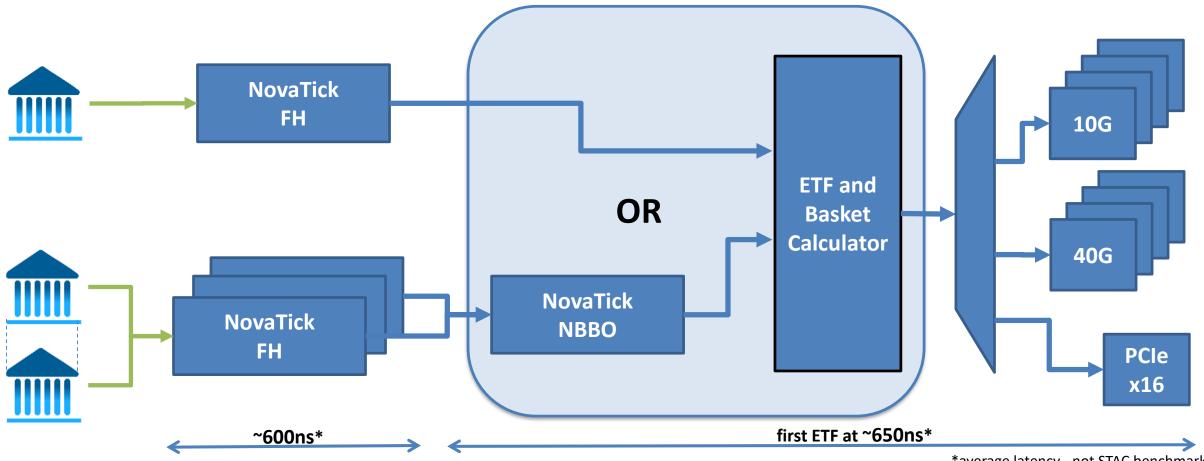


#### **NBBO** Features

- ultra low latency consolidator: 500ns\*
- ultra high throughput: a quote every 6ns
- NBBO publication options:
  - aggregated quantity
  - participant markets
  - detail of quantity per participant
  - N levels (N from 1 to 5)
- can update up to 5 synthetic UBBOs per symbol
- user can dynamically during the day:
  - update set of markets of any UBBO
  - add new UBBO on any symbol
  - globally enable/disable any market
- NovaTick NBBO possible applications:
  - US, Canada, Europe, Japan, Australia NBBO
  - SIP like NBBO (on full lot) on US equities with SIP as backup
  - cash Equity Options consolidation
  - ...



# **ETF Calculator**



\*average latency - not STAC benchmarks

- support up to 10k independent ETFs/Baskets
- average 500 symbols per ETF, some ETF can have thousands
- internal throughput can reach 16 ETFs every 3ns
- ETF updates can be spread on lots of port (10G, 40G, PCIe x16)
  - ETF can be added and weights can be modified dynamically



# Conclusion

# NovaTick, an enterprise market data platform:

- 70 markets, all symbols, latency under 800ns (600ns equities/futures, 450ns CME, 800ns Options)
- extremely scalable: full US Equities in a box, multiple US Option markets in a box
- consolidated feeds in any region just adding 500ns
- thousands of ETF/basket prices just adding 200ns
- full tick-to-trade platform on a PCIe card with latency from 200ns to 500ns (excluding strategy)
- We are not just a low latency provider: Use us for all your enterprise market data needs!
- check us off on the response card and look us up ;-)