

NOVAPARKS[™]

*Pure FPGA Market
Data Solutions*

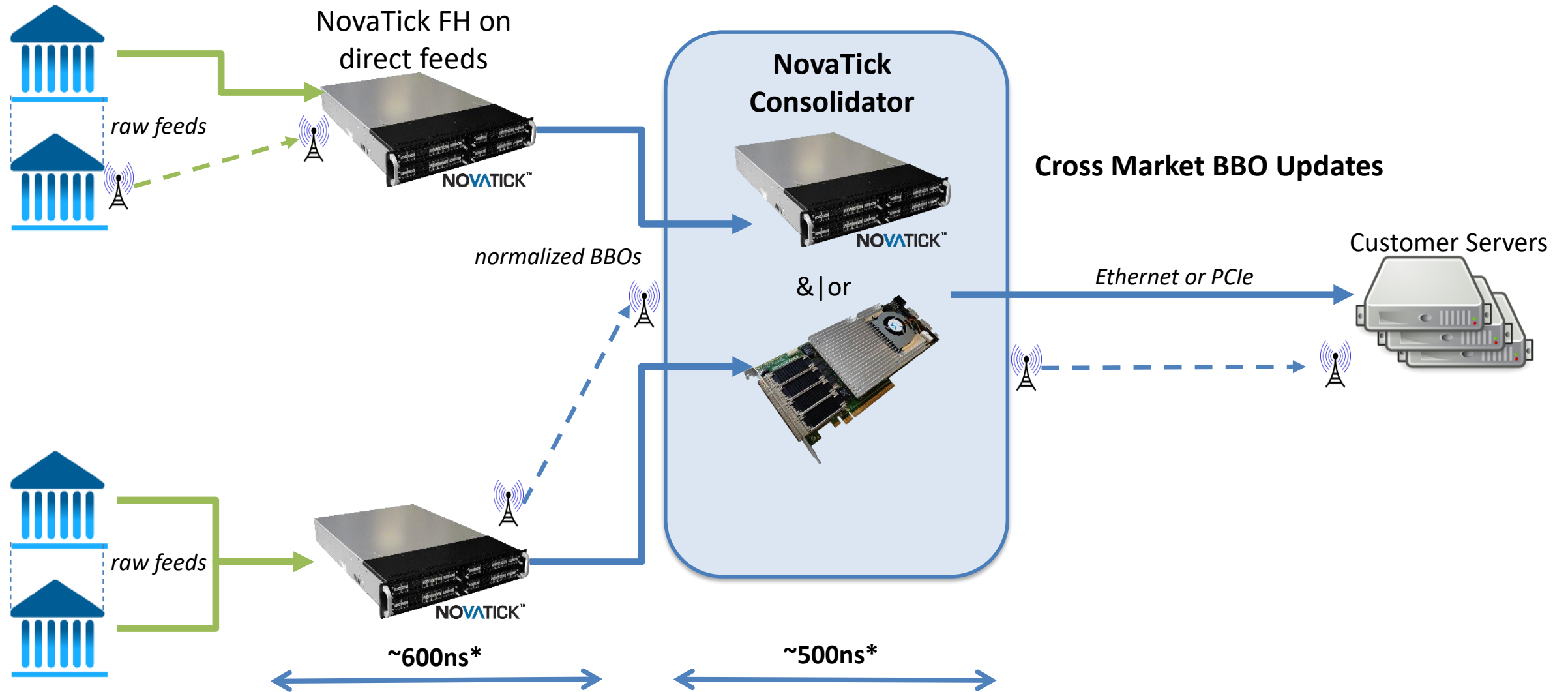
Market Consolidators and ETF Calculators

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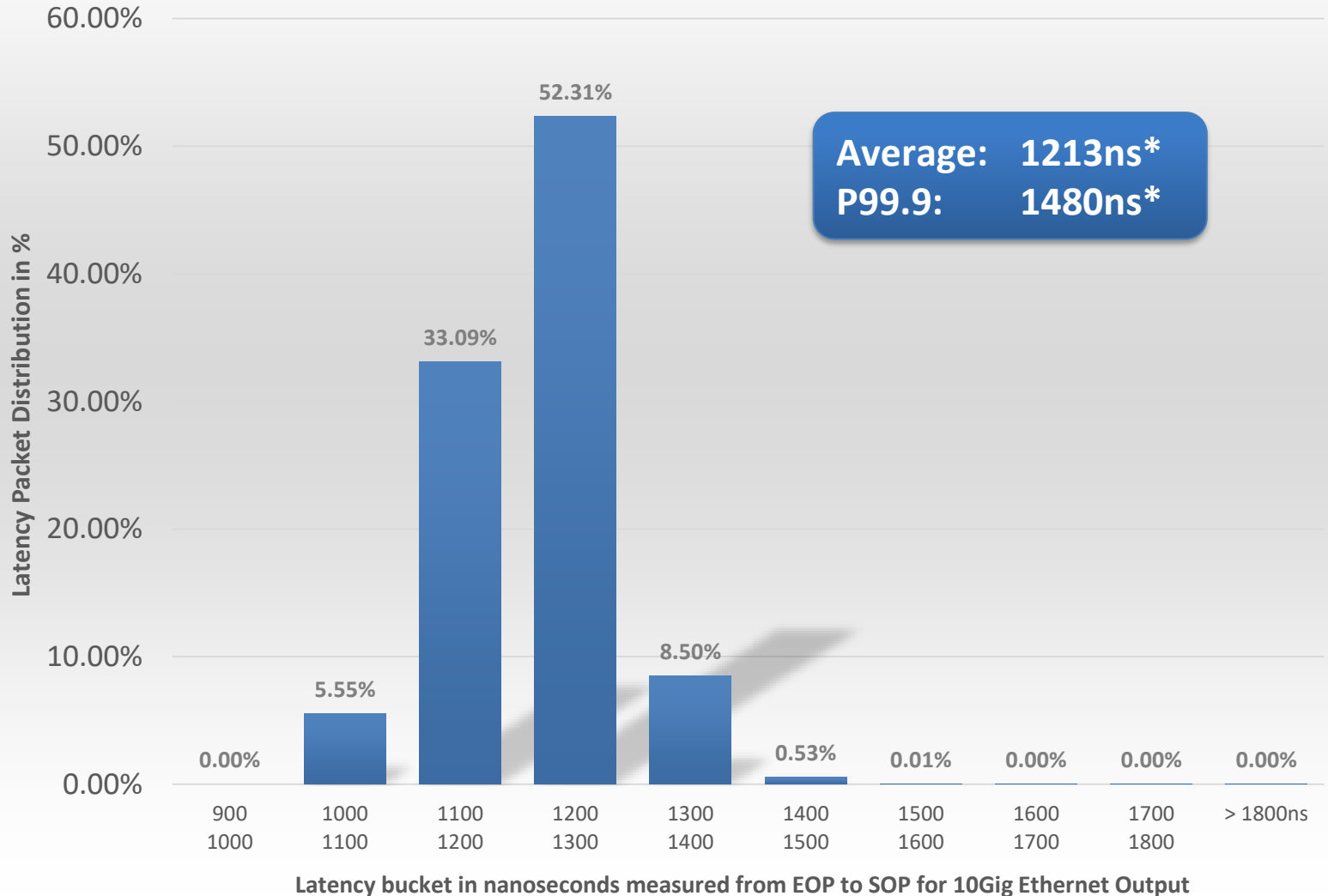
Cross Market Consolidation



*average latency - not STAC benchmarks

Consolidated US Equities on NovaTick Appliance

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

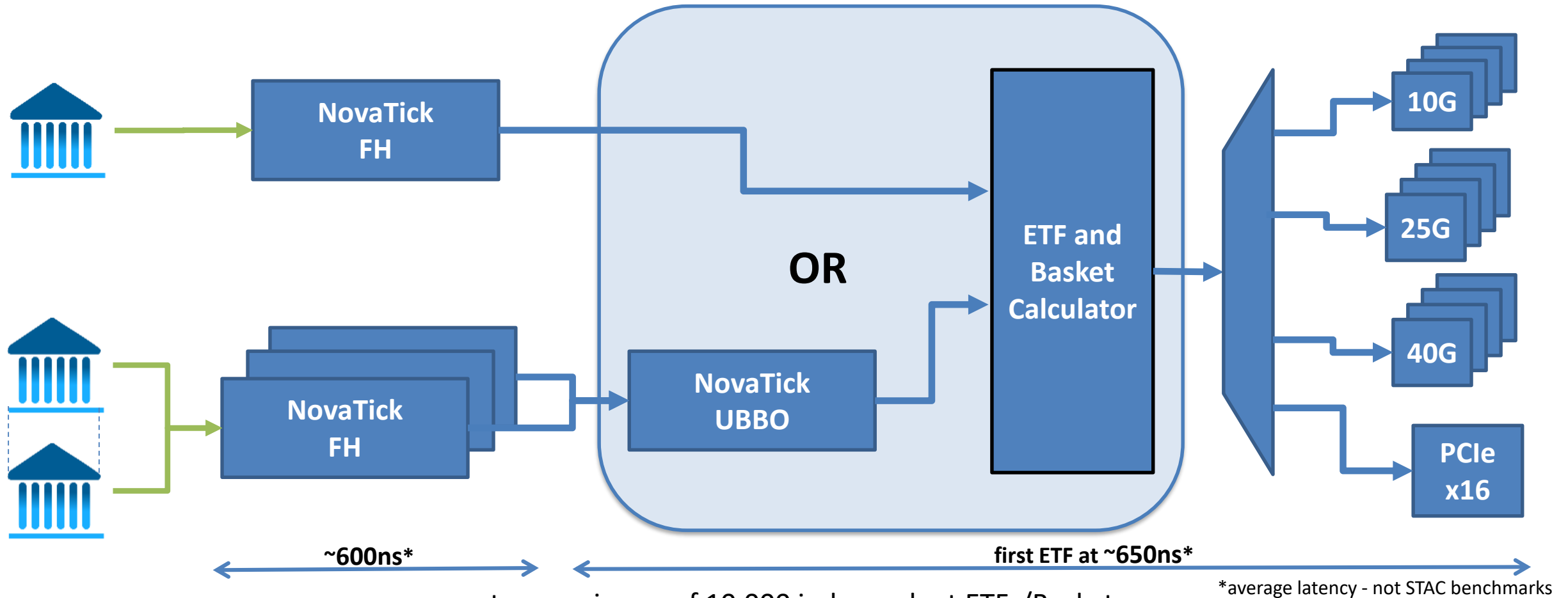


UBBO Features

- **ultra low latency** consolidator: 500ns*
- **ultra high throughput**: a quote every 6ns
- UBBO publication options:
 - Aggregated quantity
 - Participant markets identification
 - Detailed quantity per participant
 - N levels (N from 1 to 5)
 - Price only update option
- Up to 5 synthetic UBBOs per symbol
- Dynamical intraday reconfiguration:
 - Change set of markets on any UBBO
 - Add new UBBO on any symbol
 - Globally enable/disable any market
- NovaTick UBBO possible applications:
 - US, Europe, Canada, Japan, Australia, Fixed Income, FX
 - SIP like NBBO (full lot) on US equities with SIP as backup
 - Cash Equity Options consolidation

*not STAC benchmarks

ETF Calculator



- supports a maximum of 10,000 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, 25G, 40G, PCIe x16)
- ETFs and weights can be added and 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: all US Equities in a box, All major EU Equities on a box
 - consolidated feeds in any region -- 500ns
 - thousands of ETF/basket prices -- 200ns
 - full tick-to-trade platform on a PCIe card with latency from 200ns to 500ns
- Not just a low latency provider: ***NovaSparks meets all your enterprise market data needs!***
- check us off on the response card or email sales@novasparks.com

all latencies are average and not STAC benchmarks