NOVASPARKS™

High Performance FPGA Market Data Solutions

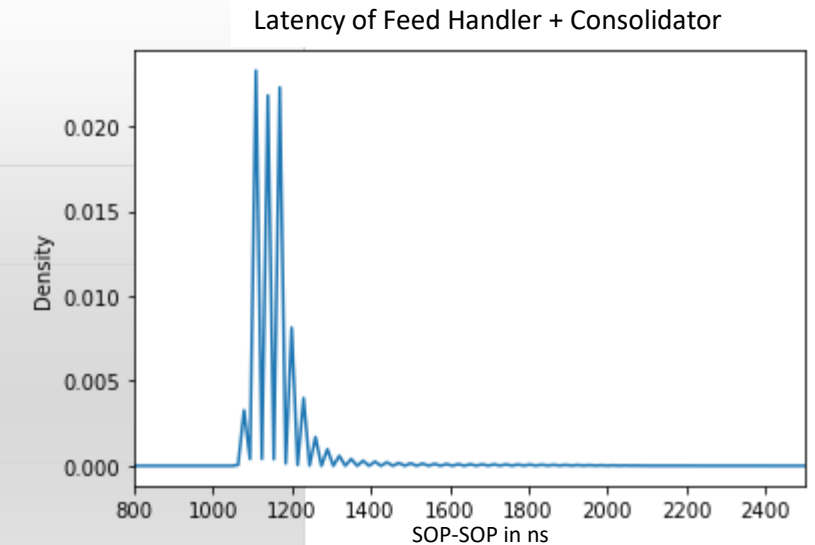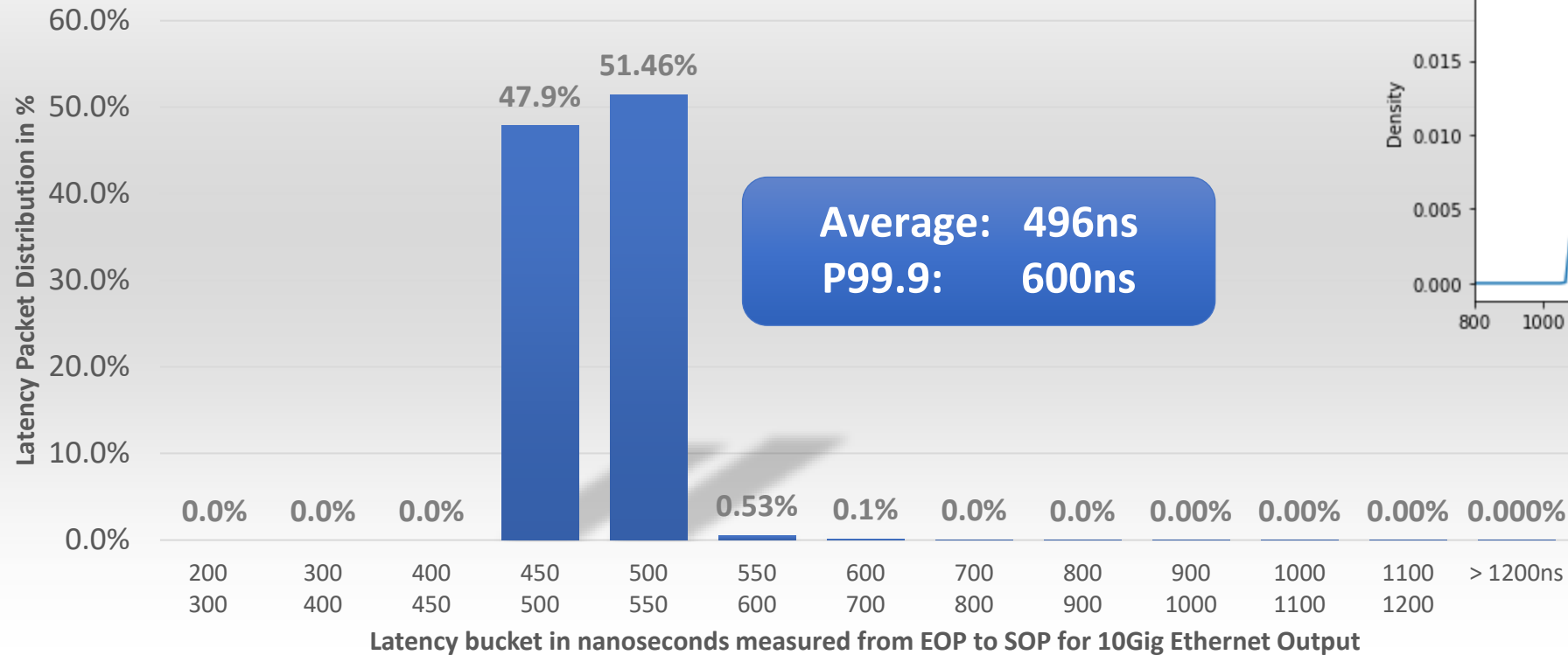# *Ultra Low Latency Market Data for Everyone*

STAC - May 18, 2023

Cliff Maddox, Director of Business Development

Our FPGA based solution is Fast and Deterministic

Book Consolidation on Main US Equities Markets

Entire Instrument Universe - 5 Level Aggregation
Full Day from March 5th, 2021

Average: 496ns
P99.9: 600ns

Latency of Feed Handler + Consolidator

Not a STAC Benchmark
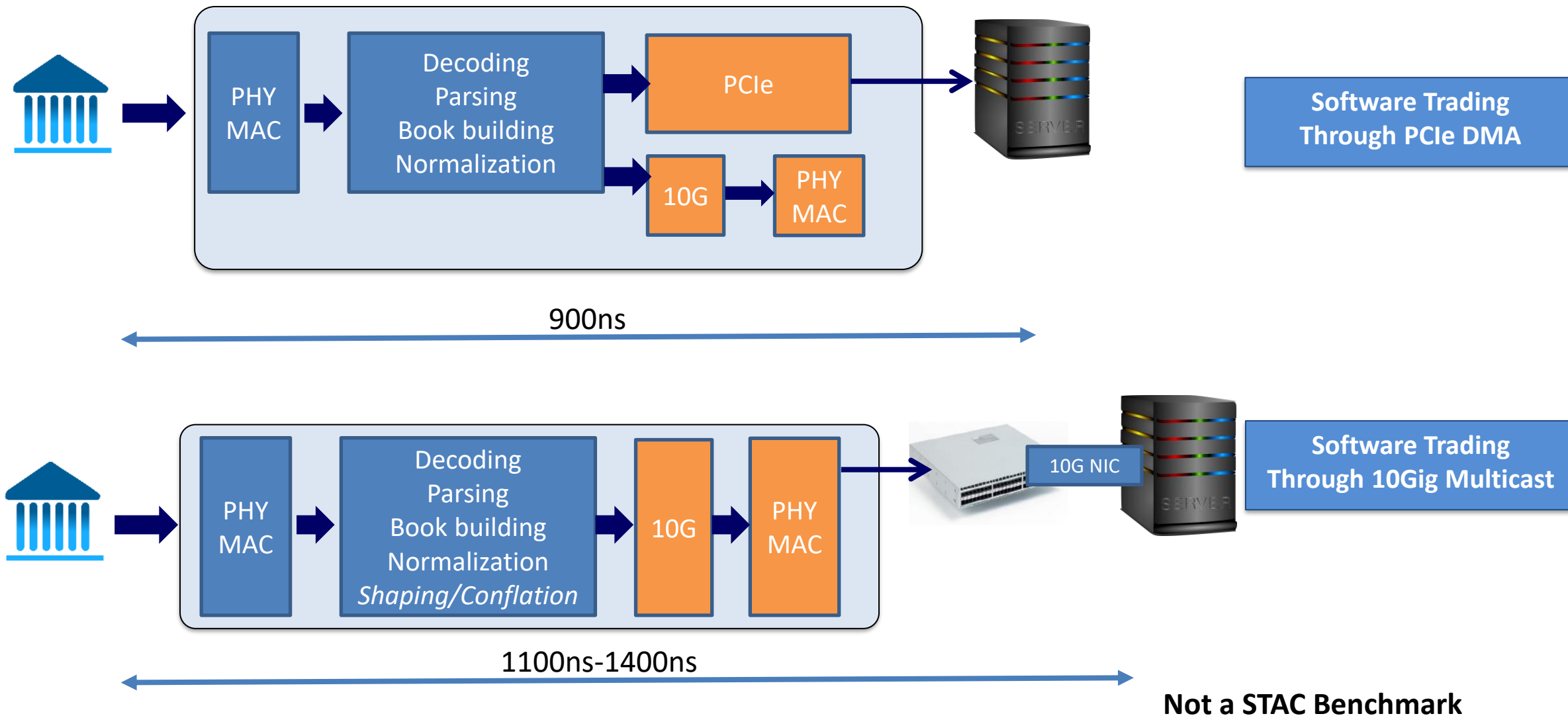
Two Models

Single box algo

- Direct PCIe Interface
- PCIe Gen3 x16
- Ability to spread across multiple message buffers
- Additional network outputs for Risk, capture or any use case.
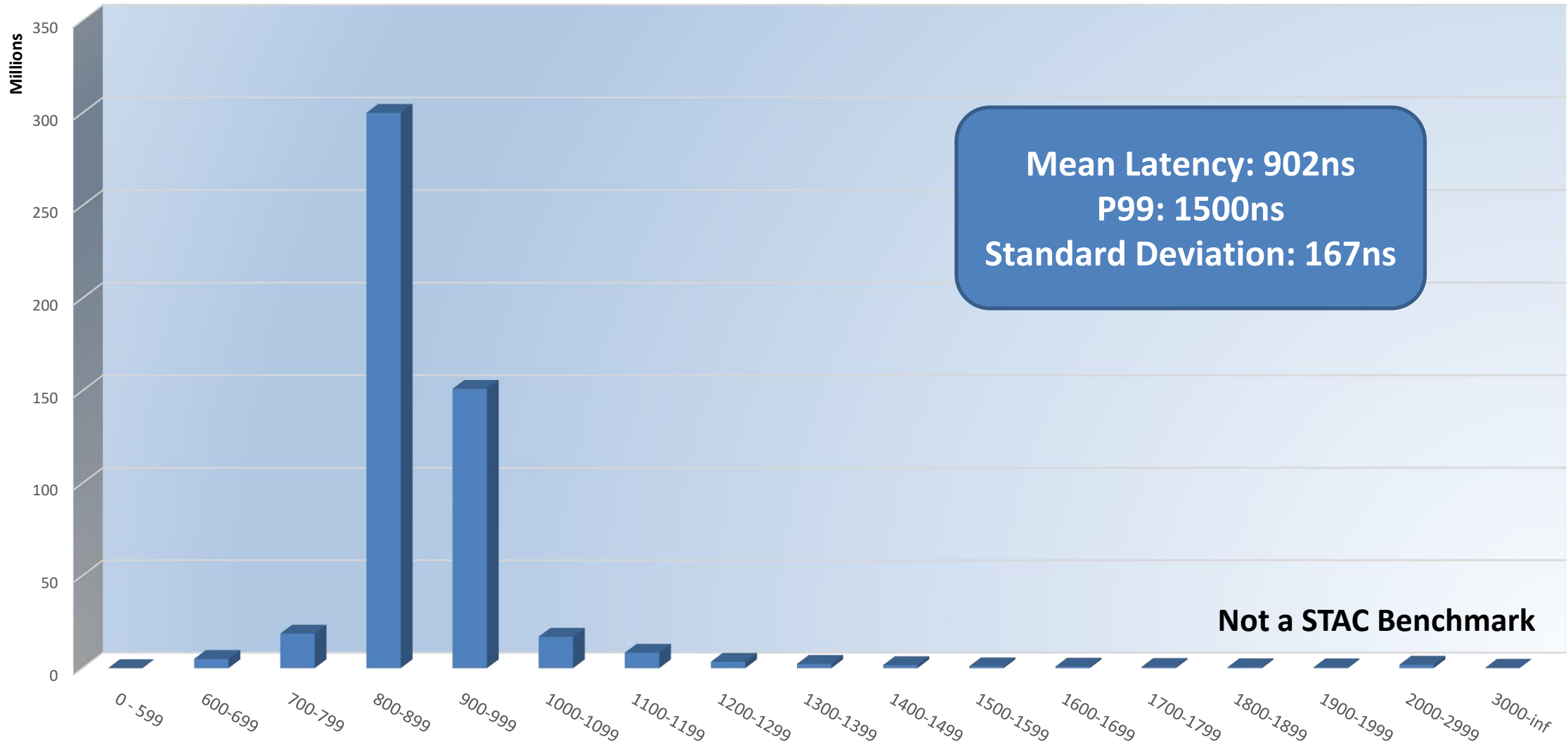
Enterprise Deployment

- 4 physical output interfaces per market 10/25/40Gb
- 4 cards per appliance
- 32 Configurable multicast per Interface
  - Symbol
  - Exchange
  - Message Type
- Entire US Equity deployment on a box

NOV∆TICK Offers Three Ways to Distribute Market Data

900ns

Software Trading Through PCIe DMA

1100ns-1400ns

Software Trading Through 10Gig Multicast

Not a STAC Benchmark

End to End Latency Nasdaq PCIe into Software Application

Mean Latency: 902ns
P99: 1500ns
Standard Deviation: 167ns

Not a STAC Benchmark

Full Function Enterprise Scale Market Data Platform

- Full Exchange Recover A/B Arb + Retransmission support – heavily used in NJ Triangle

- Client-Side Recover – Refresh loop

- Queryable Symbol Master

- NovaSparks Wire Format (NSWF) available to customers

- C++ Decoding and L2 API
  - Filtering
  - Kernal bypass support
  - Hides changes to underlying format changes
  - High Bandwidth low latency

- Enterprise Monitoring Support

- DACS Integration for entitlements

Pure FPGA Market Data Solutions

Check the NovaSparks box on your card
or email sales@novasparks.com