Hardware + Adaptable Software for High Performance Networking

Nan Boden, Ph.D.
CEO
nan.boden@myricom.com

HPC Linux Financial Markets

April 2, 2012

Myricom: the Leading Provider of Adaptable Ethernet Solutions for Vertical Markets Requiring Extreme Performance

- Caltech Spinoff
- Pioneers of HPC – Interconnect Technology for Cluster Computing
- 4 Generations of Technology Innovation
- Elite Core Team of Networking Experts

Myricom's Core Competencies

- Unique, Adaptable Hardware + Software Architecture
- One of the first to deliver general purpose 10G Ethernet Adapters (2005)

  Processor-based architecture, highly programmable
  Allows for firmware and API development for high performance applications
  Solutions offer performance, time-to-market customer advantages
- Low Latency Networking – Low CPU Overhead Solutions
- Superior Customer Service – Responsive, knowledgeable technical support
- Battle-proven device drivers and firmware

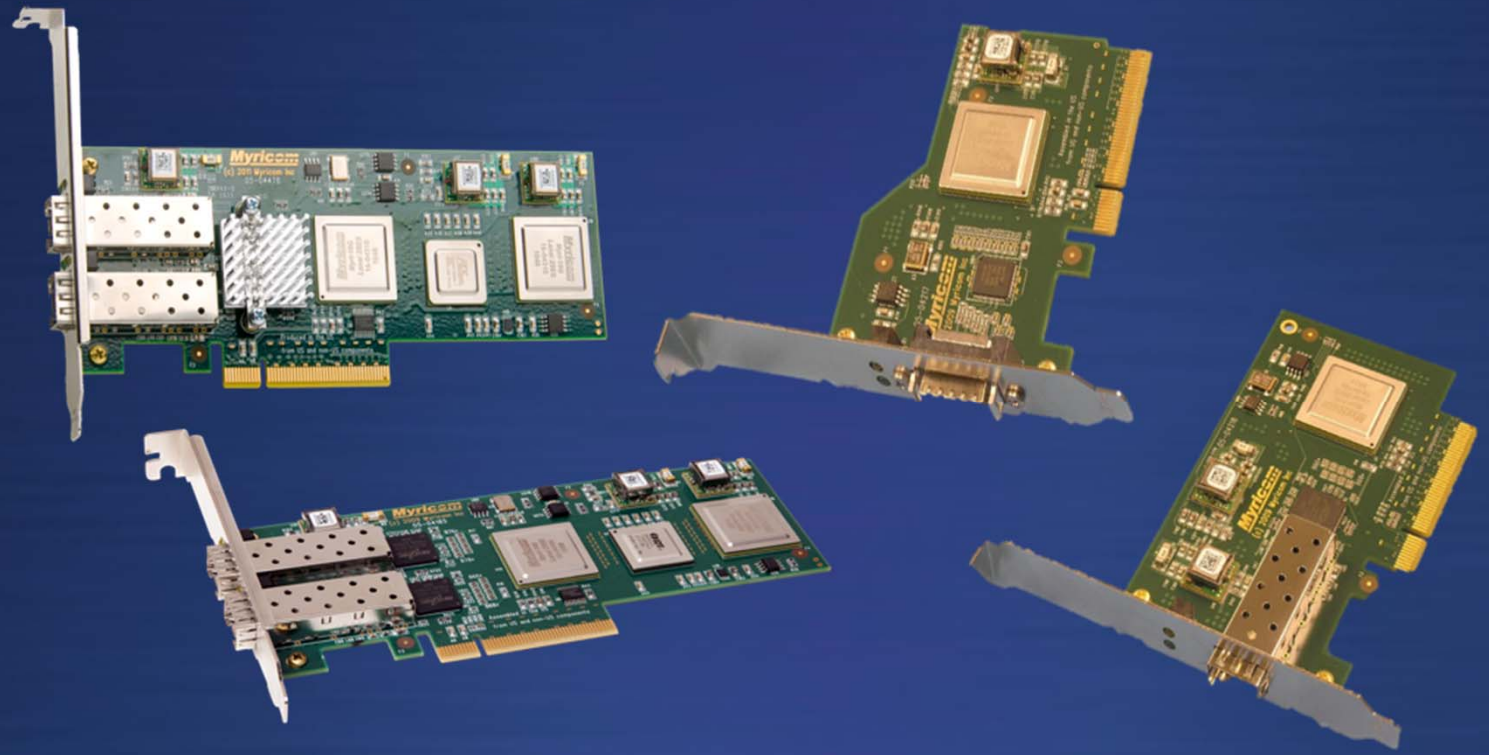
How We See Networking Now

- Hardware is commoditizing too quickly
- Generating a chip for every possible vertical market – too expensive in time *and* money
- Many applications need differentiated performance from “vanilla” networking
- Requirements are changing rapidly – Software can meet these changes faster and simpler than using FPGAs or spinning chips to “checklists”

The Business Difference: Adaptability through Innovative Software

- Programmable platforms have the advantage for extending utility and life of hardware.
- We help make our customers more competitive across multiple vertical markets with innovative software.

Businesses buy our hardware + software



Network adapters are a platform for delivering performance via software packages.

Markets Served

- Businesses utilizing high-performance, industry-standard, 10-Gigabit Ethernet (including virtualization)
- Financial markets, High Frequency Trading (HFT) and Big Banks
- Cybersecurity applications, compliance, network monitoring, test and measurement
- IPTV and video streaming
- High Performance Computing (HPC)




DBL™ Delivers What Matters: Latency

- UDP and TCP Transparent Acceleration
- Low Jitter = Predictable/repeatable latency performance
- Kernel bypass
- Industry Standard - No specialty networks required to achieve transparent acceleration

  Ethernet is open, widely used, easily supported, and stable.

  Specialty and/or proprietary network technologies are hard to debug when things go wrong.
- **Target Markets:**

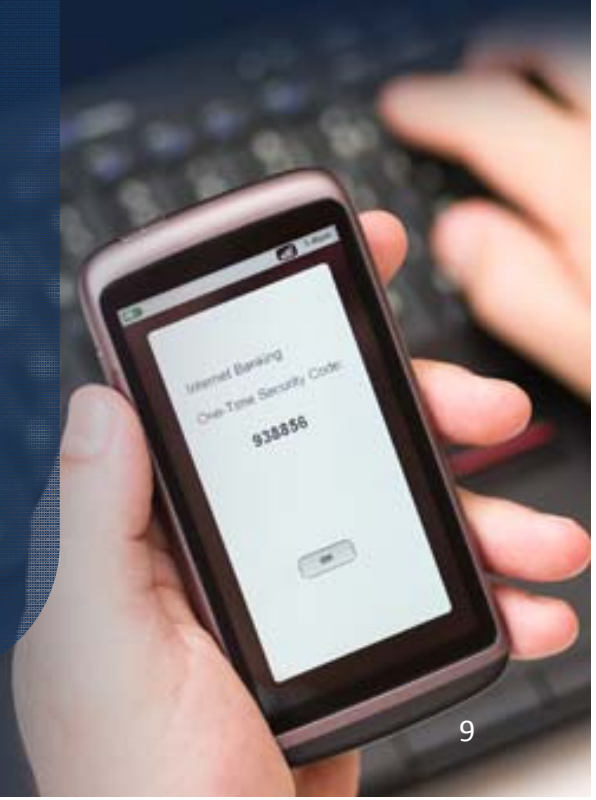
  Financial Trading and others requiring reduced network latency

Sniffer10G™ Delivers What Matters: Packets/sec – Line Rate Performance

- Packet capture and now Injection for Security Applications and Appliances
  - Zero Packet Loss and Line Rate to 20Gbps
  - Lossless Packet Capture – 14.88 Mpps
  - Wire Speed Packet Injection – 14.88 Mpps
  - Can Use All CPU Cores for Packet Analysis
  - Kernel-bypass for Low Software Overhead
  - Optional PPS-synchronized timestamps

Target Markets:

Network Surveillance and Analysis, Test, Measurement and Packet Generation, DDoS Defense Appliances

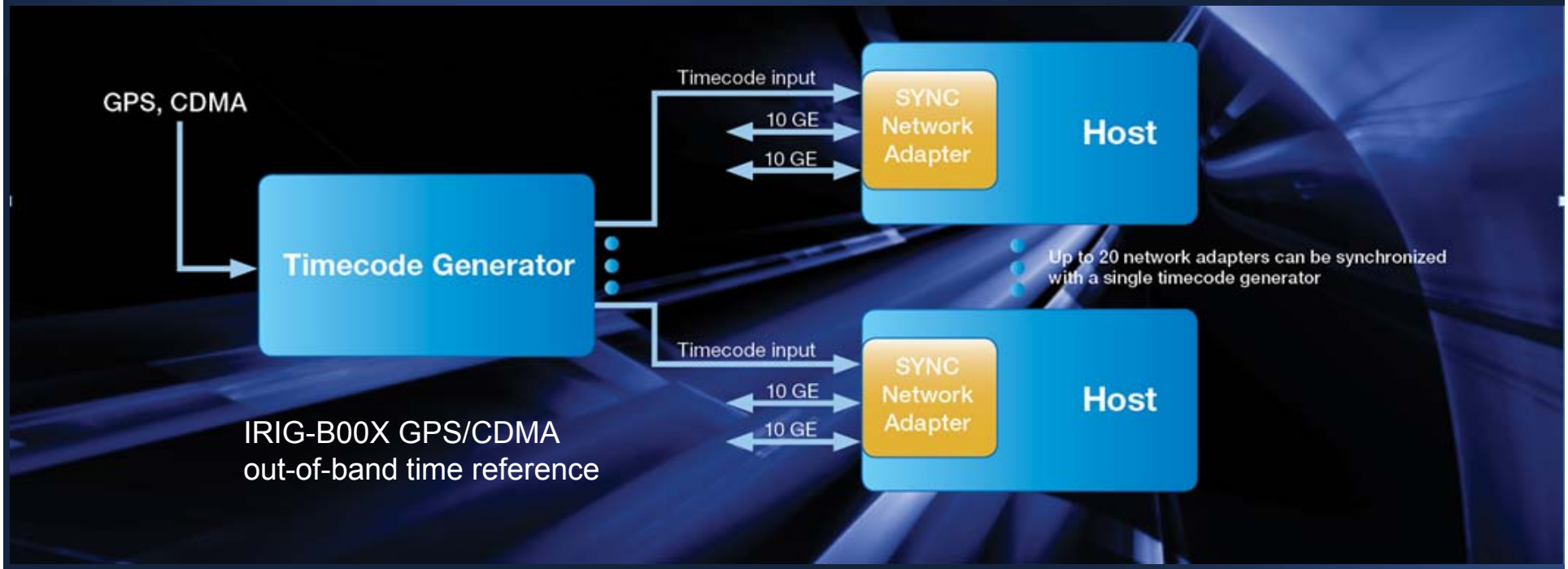


New SYNC Adapter

Two-port 10-Gigabit Ethernet timecode-enabled network adapter

SYNC deployment configuration

Two-port 10-Gigabit Ethernet timecode-enabled network adapters



New HFT deployment patterns

- Simultaneous DBL and SNF operation
  - For trading
  - For capture/replay and aggregating many market feeds (handling many millions of messages per second)
- Superior to PTP-based approaches: no in-band network performance variability
- Cost-effective approach for large-scale deployments

Where Hardware+Software Goes from Here

- Adoption moving into related sectors
  - Financial trading → Banking
  - Packet capture/injection → Cybersecurity
  - Video streaming
- Expansion into new verticals
  - Virtualization, Cloud, Storage
- New hardware platforms and new software packages expand range of product offerings
- Reintroducing access to platform programmability at FDK level
  - "We build mechanism, not policy"

Hardware + Adaptable Software for High Performance Networking

Nan Boden, Ph.D.
CEO
nan.boden@myricom.com

HPC Linux Financial Markets

April 2, 2012