

# World's Fastest Switch: xPORT XPM3

The xPort XPM3 adds FPGA processing power to xCelor's family of Layer 1 switches specially programmed for optimum trading performance. An Altera® Arria® 10 combined with an Intel® Xeon® processor provide an application platform with unmatched performance. xCelor-developed applications include port multiplexing and data capture with high-fidelity playback. With the FPGA 3ns from the exchange handoff and the Xeon processor a few hundred nanoseconds further, the platform offers unparalleled speed and flexibility.

**PORT MULTIPLEXING.** The XPM3 multiplexes up to 32 ports, for direct access to the exchange handoff within 80ns.

**PACKET CAPTURE.** Capture and store time stamped data on the device's solid-state drives. You can capture data for all ports: 32 RX channels on the front, and up to 4 multiplex ports. Configure capture rates up to 20Gb per second. Supports 10TB physical storage on RAID SSD drives.



*XPM3: Layer 1 switch with storage*

**TIME STAMPING.** The switch can time stamp all data that passes through any port of the device. Timestamps do not increase latency. The XPM3 time stamping circuitry is pulse-per-second synchronized, with 12-18ns jitter.

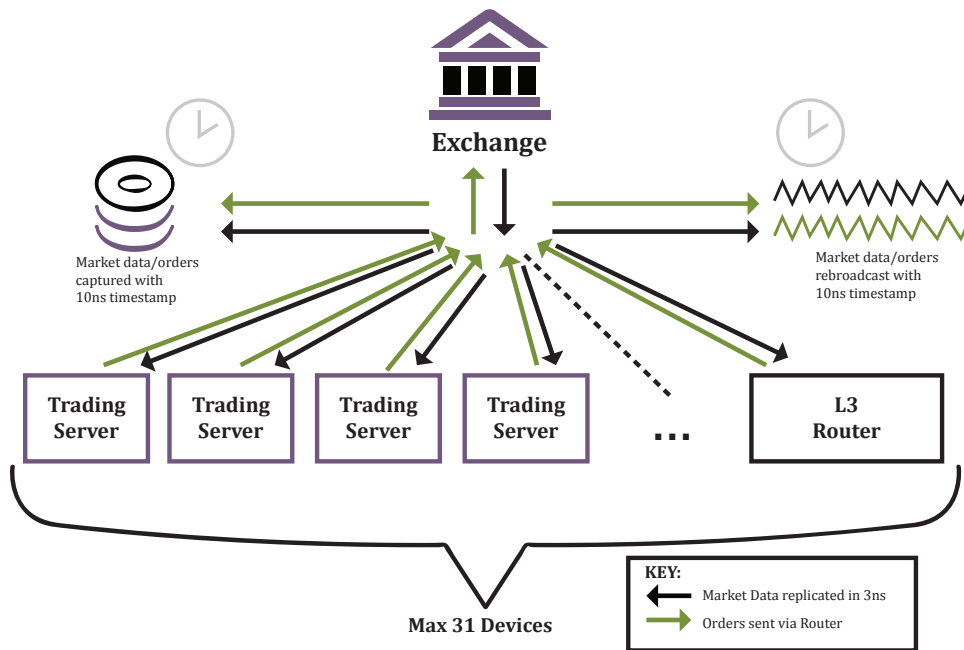
**TIMESTAMP REBROADCAST.** The device can rebroadcast time stamped data in real time, to replace the frame check sequence, or to insert a 32-bit timestamp in front of the frame check sequence. Key frames are optional, and may be configured from the command-line interface. You can time stamp data from 8 ports simultaneously.

**ZERO-COST INTEGRATION.** An internal PCI Express slot lets you add a market feed handler, or other PCIe card, to the device. You can use internal cabling to address any port on the front panel, with no software integration required.

**HIGH-FIDELITY PLAYBACK.** Using high-precision timestamps for captured data, including microbursts, the XPM3 plays back captured data streams exactly as it receives them. Use playback to troubleshoot with no insertion of additional devices in the network. To be implemented in the next version of the XPM3.

# How the XPM3 Performs in Your Network

The XPM3 will replicate inbound market data with or without time stamped capture or rebroadcast, in 3ns. The XPM3 will multiplex outbound orders with or without time stamped capture or rebroadcast, in 80ns.



## Product Technical Specs

Providing support for up to 32 multiplexed ports and time stamping, the XPM3 provides:

### PERFORMANCE

- Port-to-Port Latency\*
  - Minimum 2ns
  - Typical 2.5ns
  - Maximum 4ns
- Multiplex/filter Latency\*\*
  - Hyper Mux: <80ns

### SUPPORTED MEDIA

- 10/100/1000 Mbps RJ45 and Fiber
- 10Gbps fiber or passive-attached twinax copper
- 10Gbase-T Ethernet is supported, but not recommended

### STORAGE

- 5x SSDs for packet capture
- 1x system SSD
- Extra PCI slot for 3rd party solutions
- RAID support

### CONNECTIVITY

- 32 SFP/SFP+ ports
- Max Data Rate 10.3125 Gbps
- Supported Ethernet Speeds:  
10M/100M/1G/10G

### POWER AND COOLING

- Input Voltage: 100-240V AC 47-63Hz
- Broadwell 8-core Xeon with upgradability to up to 18-core Xeon E5 v3

### REMOTE MANAGEMENT

The xPort family can be configured and monitored through a command line interface (CLI), which is also available out-of-band. Among other functions, the CLI permits:

- Data replication and muxing configuration
- Isolation of ports
- Configuration of port speed
- Diagnosis of port connectivity issues such as measured light levels and eye diagrams
- Access to device health monitoring, such as ambient temperature, power draw, and so on
- Configuration of time stamping and capture options

\* Latency through switch matrix only.

\*\* Latency through FPGA and switch matrix