DATASHEET

NI PXIe-6594 Ethernet Test Solution for LabVIEW™

PXIe Test Instrument for Ethernet Protocol

Applications

Ethernet Data Recorder—Record data for analysis or diagnosis.

Ethernet Data Generator—Emulate existing equipment or recreate faults.

Ethernet Record & Playback—Capture data then replay it with hardware level precision.

Benefits

View, analyze, or create Ethernet Traffic using PCAPNG natively in LabVIEW™ or with a wide variety of open source tools.

Capture or generate large Terabyte+ data sets.

Complete FPGA design with FPGA-based offload of protocol. No FPGA design needed by user.

Reduce development time by focusing on software test applications instead of test hardware development.

Lower total cost of test development and test system operation.

Specifications

Available support for 10/25/40/100Gbps

Stream to/from disk or buffer to/from 8GB DDR memory

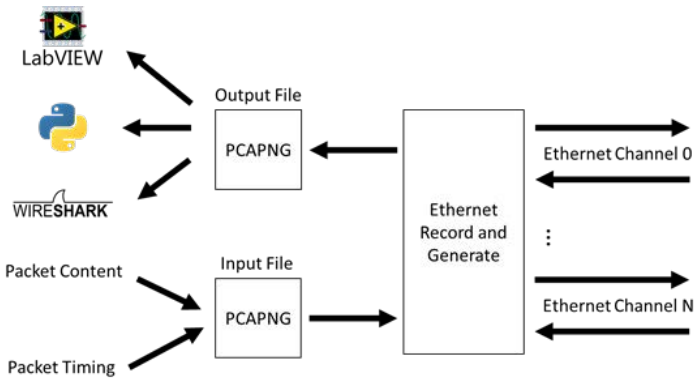
Record up to 150Gbps when storing to DDR Buffer

Record up to 20Gbps when streaming to Disk

Transmit up to 150Gbps when reading from DDR Buffer

Transmit up to 20Gbps when streaming from Disk

Data input/output via PCAPNG



National Instruments PXIe-6594 card

Overview

Available on National Instruments 6594 card, the Ethernet Data Generator and Recorder is a flexible tool for test environments that allows the user to record up to 8 simultaneous ports of ethernet and/or send up to 8 simultaneous channels of user-defined data. The tool is based around the widely utilized PCAPNG file format for file I/O that allows the user to leverage a wealth of open-source tools and guides to view, analyze, and create data sets.

PCAPNG encapsulation is handled entirely within the FPGA which allows high throughput, precise timestamps, and consistent performance. Captured data may be buffered within the card's DDR (8GB) allowing high performance capture performance without a high-performance PXIe chassis or controller. For high performance systems, the stream to disk feature allows Terabyte+ captures of sustained bandwidths of 20Gbps+.

Data transmission is also based around the PCAPNG file format which allows the user to playback previously recorded files or send custom-made data sets. Conversion from the PCAPNG format to ethernet streams takes place entirely in hardware which allows both high performance throughput and precise timing. Similar to recording modes, the user can select between a DDR buffer mode and stream from disk mode. DDR buffer mode allows high performance data transmission without a high-performance chassis or controller. When properly configured, a high performance chassis can stream from disk and send Terabyte+ data sets at 20Gbps+.

CONTACT US TODAY

Contact New Wave DV today for more information.
www.newwavedv.com Phone +1 952-224-9201

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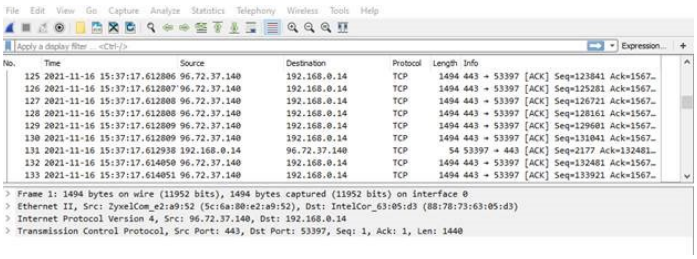

> Input and output file format is compatible with Wireshark and other programs that use the PCAPNG file format

Features

Completely customizable Ethernet packets and data transmission patterns.

Hardware timestamping (5ns resolution) synchronized across all 8 ports.

Coordinate data transmission across all 8 ports within a single PCAPNG file.

Stream to/from disk or DDR buffer.

Windows C or LabVIEW™ API. Example designs provided.

Statistical eye diagrams for signal integrity measurements.

Statistics and error collection/monitoring.

Our Commitment

New Wave DV is committed to providing the latest innovations in technology, architectures, and techniques to keep our customers one step ahead of the rest. Our products, complete with the Development Framework, are intended to offer our customers an entirely unique out-of-the-box experience.

Complete Product Support Program

New Wave DV prides itself on its excellent customer support, a fact that is echoed by our customers. New Wave DV provides industry standard warranty on its products, but it is the human factor that makes our support so valuable to our customers. Our team takes the time and effort to ensure that the customer experience with our products is a positive one.

Configuration

PXIe HARDWARE:
PXIe-6594 NI PXI High-Speed Serial Instrument

NETWORK INTERFACE:
Up to 8 ports of 10/25Gbps. Up to 2 ports of 40/100Gbps. Available via 2 QSFP connectors.

PROTOCOL:
Ethernet

Ordering Information

400-56594-00-01-00: Ethernet Solution for LabVIEW: NI PXIe-6594 High Speed Serial Instrument, Ethernet Solution for LabVIEW IP Core, 8 Ports 10G/25G, Transmit and Receive

400-56594-00-02-00: Ethernet Solution for LabVIEW: NI PXIe-6594 High Speed Serial Instrument, Ethernet Solution for LabVIEW IP Core, 2 Ports 40G, Transmit and Receive

400-56594-00-03-00: Ethernet Solution for LabVIEW: NI PXIe-6594 High Speed Serial Instrument, Ethernet Solution for LabVIEW IP Core, 2 Ports 100G, Transmit and Receive

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NEW WAVE DV Design & Verification