

NI PXIe-6593 Serial RapidIO® Protocol Data Recorder for LabVIEW™

PXIe Test Instrument for Serial RapidIO® Protocol

Applications

Record SRIO data to disk for analysis or diagnosis

Record large volumes of sensor data for characterization

Benefits

View, analyze, or create SRIO data using PCAP natively in LabVIEW™ or with a wide variety of open-source tools.

Capture large Terabyte+ data sets of SRIO data

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

Fully compatible with and integrated into LabVIEW™

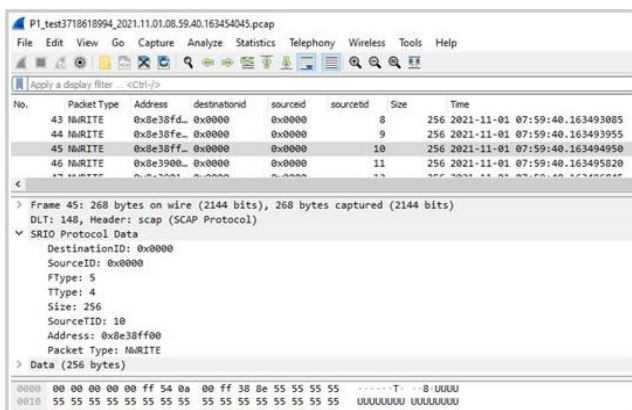
2 independent SRIO ports via QSFP connectors

1x, 2x, 4x lane modes at 1.25, 2.5, 3.125, 5 Gbps

Supports 8-bit or 16-bit device IDs

Packet support:

- Type 2 (NREAD non-atomic)
- Type 5 (NWRITE, NWRITE_R non-atomic)
- Type 6 (SWRITE)
- Type 8 (Maintenance)
- Type 9 (Data Streaming)
- Type 10 (Doorbell)
- Type 11 (Data Message)



> Captured SRIO data can be viewed and displayed in Wireshark. The included .lua dissector breaks out the individual fields of the SRIO packets.



National Instruments PXIe-6593 card

Overview

Available on National Instruments 6593 card, the SRIO Data Recorder is a flexible tool for test environments that allows the user to record up to 2 simultaneous channels of SRIO. The design is based around the widely utilized PCAP file format for file I/O that allows the user to leverage a wealth of open-source tools and guides to view and analyze captured data.

PCAP encapsulation is handled entirely within the FPGA which allows high throughput, precise timestamps, and consistent performance. The FPGA can throttle/back-pressure incoming SRIO traffic so throughput never exceeds system recording capabilities. For high performance systems, the system is capable of recording Terabyte+ captures at 20gbps+ speeds.

A LabVIEW™ example design is included that provides a turn-key application and allows the user to begin capturing and analyzing SRIO data without any coding. This example design is user-modifiable and can be used as a template for a custom test application.

Optionally, the system can be operated as a standalone instrument and controlled remotely via a network connection. Command and control is handled via plain text UDP commands which allows integration into test systems running C#, C++, Python, and more.

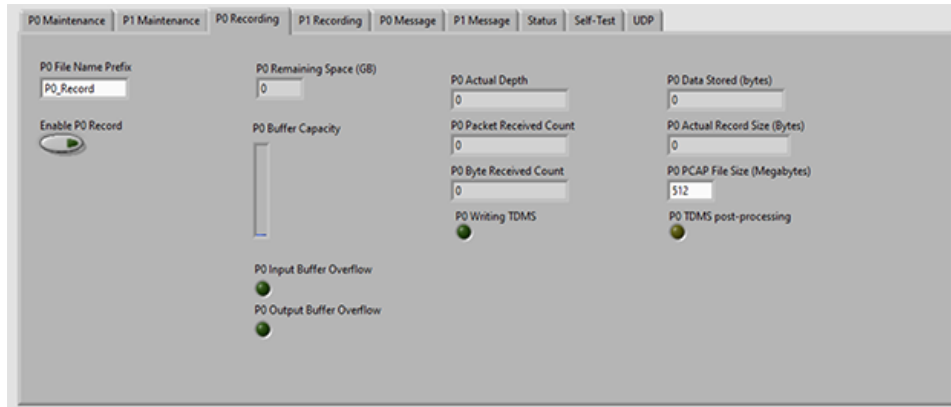
This functionality can be combined with the [sRIO Endpoint Protocol Offload](#) into a single design.

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> A turnkey LabVIEW™ application is included and user customizable.

Features

Hardware timestamping (5ns resolution) is synchronized across both ports.

Example LabVIEW™ API designs are provided.

Example Python API for remote command and control of the host application.

Included .lua dissector allows user to view/analyze captures in Wireshark. Can be combined with SRIO Endpoint Offload into a single design.

Statistical eye diagrams for signal integrity measurement.

Ordering Information

400-56593-00-87-00: sRIO Protocol Data Recorder: NI PXIe-6594 High Speed Serial Instrument, SRIO Test Solution for LabVIEW IP Core, 1.25/2.5/3.125/5G

400-56593-00-89-00*: sRIO Protocol Test Suite (Data Recorder+ EndPoint Offload) : NI PXIe-6594 High Speed Serial Instrument, SRIO Test Solution for LabVIEW IP Core, 1.25/2.5/3.125/5G

Contact New Wave DV today for more information.

*Please note that the protocol test suite is a combination of the Data Recorder and EndPoint Offload.

Configuration

PXIe HARDWARE:

PXIe-6593 NI PXI High-Speed Serial Instrument

NETWORK INTERFACE:

Up to 2 ports using QSFP connectors

PROTOCOL:

Serial RapidIO®

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.

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.

CONTACT US TODAY

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