

TRX D8 2.0

Data logging and compute for ADAS/AD development

Flexible logging solution supporting both PCI-based and network-based logging



KEY FEATURES

- Network-based logger built on Intel's 10th Gen Xeon-D processor and designed for edge environments.
- Interface to PCI/PXI-based data acquisition systems by swapping compute for PCIe Target Adapter (Gen4 x16).
- Field-proven storage cassette with up to 8x SATA3/SAS4/NVME SSDs in standard 2.5" form factor.
- Up to 240TB of storage, 200Gbps write speeds.
- PCI-E Gen 4 RAID card for data redundancy, encryption and offload.



TRAINS



AUTONOMOUS



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KLAS

TRX D8 2.0

Flexible Deployment Options



TRX D8 2.0 base storage module

TRX D8 2.0 allows the base storage unit to be used as a PCI- or network-based logger by simply swapping the head unit for a PCIe Target Adapter or compute unit. Example deployments are as follows:

PCI-based Logging

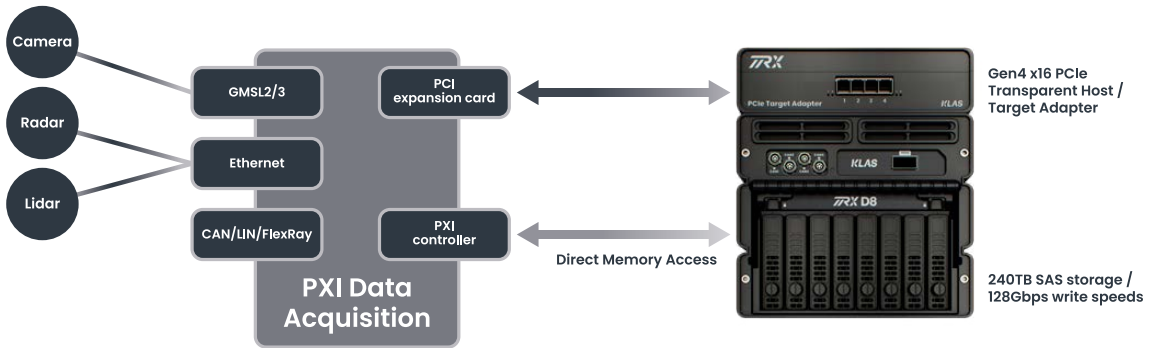


Figure 1: PCI-based logger interfaces to existing PXI toolchains via the PCI expansion card

Network-based Logging

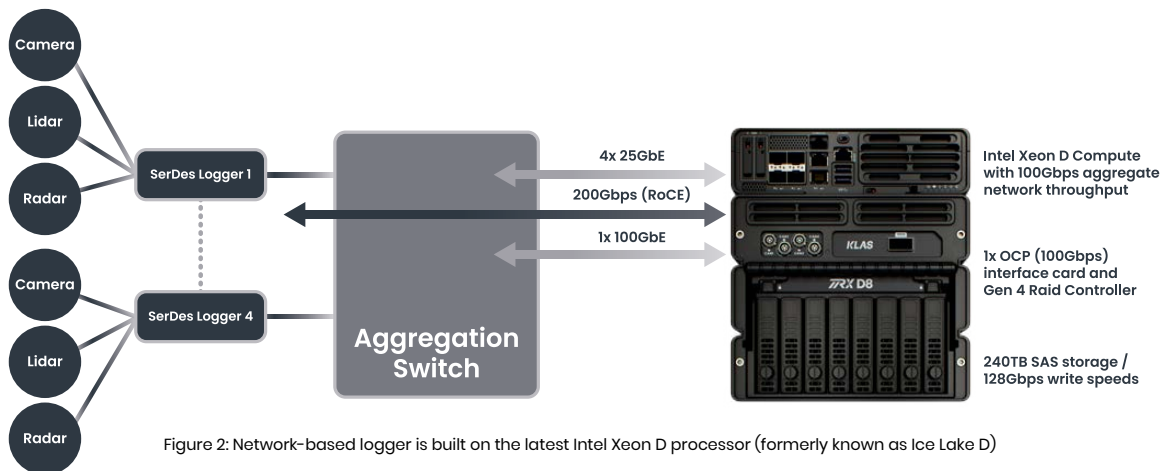


Figure 2: Network-based logger is built on the latest Intel Xeon D processor (formerly known as Ice Lake D)

KLAS OS KEEL | BLACKROCK

Optimised Management & Virtualization

RRX D8 2.0

Specifications

PCI-based Logging



PCIe TARGET ADAPTER

- Gen4 x16 PCIe Transparent Host / Target Adapter

REMOVABLE STORAGE CASSETTE

- 8x SATA3/SAS4/NVMe SSDs in standard 2.5" form factor
- Supports self-encrypting SAS SSDs (Samsung and Kioxia)
- Supercap option for battery-backed cache

PCI-E GENERATION 4 RAID CARD

- Broadcom MegaRAID 9670W-16i, x8 or x16 RAID card support
- Supports RAID levels 0, 1, 5, 50, 6, 60
- SATA / SAS / NVMe support up to 32TB per SSD
- Supercap-based battery backed cache
- JBOD mode for ZFS deployments

TEMPERATURE RANGE

- Operational: 0°C to 50°C
- Storage: -40°C to 85°C

PHYSICAL SPECIFICATIONS

- 7.4" x 8.5" x 9.0" (188 x 217 x 228mm)
- 13.9 lb (6.3kg)

CONSTRUCTION

- Aluminum chassis with integrated active cooling for increased temperature ranges
- Abrasive resistant ceramic coating

Network-based Logging (128Gbps)



COMPUTE

- Intel 10th Gen Xeon D-1746TER
- Frequency: 3.1 GHz
- Max cores: 10
- Max threads: 20
- RAM: 128 GB

MAIN STORAGE

- 2 x E1.S 9.5mm NVMe SED SSDs
- 1 x VIK+ NVMe boot or write-cache device
- 1 x NVMe internal boot device (256 GB)

REMOVABLE STORAGE CASSETTE

- 8x SATA3/SAS4/NVMe SSDs in standard 2.5" form factor
- Supports self-encrypting SAS SSDs (Samsung and Kioxia)
- Supercap option for battery-backed cache

NETWORKING

- 1 x 100 Gbps QSFP28 interface
- 4 x 25 Gbps SFP28 interfaces
- 2 x 2.5 Gbps copper interfaces
- 1 x 1 Gbps for management
- IEEE 1588/TSN 802.1AS timing support
- RDMA over Converged Ethernet (RoCE)
- 4 x CAN-FD (single connector, 4-channels)

PCI-E GENERATION 4 RAID CARD

- Broadcom MegaRAID 9670W-16i, x8 RAID card (200Gbps) or x16 RAID card (100Gbps) support
- Supports RAID levels 0, 1, 5, 50, 6, 60
- SATA / SAS / NVMe support up to 32TB per SSD
- Supercap-based battery backed cache
- JBOD mode for ZFS deployments

Network-based Logging (200Gbps)



COMPUTE

- Intel 10th Gen Xeon D-2796TE
- Frequency: 3.1 GHz
- Max cores: 20
- Max threads: 40
- RAM: 512 GB

MAIN STORAGE

- 2 x E1.S 9.5mm NVMe SED SSDs
- 1 x VIK+ NVMe boot or write-cache device
- 1 x NVMe internal boot device (256 GB)

REMOVABLE STORAGE CASSETTE

- 8x SATA3/SAS4/NVMe SSDs in standard 2.5" form factor
- Supports self-encrypting SAS SSDs (Samsung and Kioxia)
- Supercap option for battery-backed cache

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Specifications cont.

PCI-based Logging...

COMPLIANCE

Designed to meet:

- MIL-STD-810
- MIL-STD-461
- FCC Part 15 B
- CE
- RoHS
- REACH

ORDER NO.

- KLAS-TRX-D8-PCI-BCM9670W-A-PS

Network-based Logging (128Gbps)...

SECURITY

- Secure Boot
- Intel Boot Guard
- Intel TXT (Trusted Execution Technology)
- Intel TME (Total Memory Encryption)
- Intel SGX (Software Guard Extensions)
- Tamper switch

SOFTWARE AND MANAGEMENT

- OpenBMC
- BIOS & Hypervisor CLI over console
- KlasOS Keel: KVM-based hypervisor
- Blackrock: IT management, automation, and monitoring

POWER

- 250W, 12VDC
- Filter and surge protection to ISO 16750-2
- Connector type: Amphenol PT02E12-4AP
- Ignition controlled

TEMPERATURE RANGE

- Operational: 0°C to 50°C
- Storage: 0°C to 70°C with supercap backup (-40°C to 85°C without)

PHYSICAL SPECIFICATIONS

- 7.4" x 8.5" x 9.0" (188 x 217 x 228mm)
- 13.9 lb (6.3kg)

CONSTRUCTION

- Aluminum chassis with integrated active cooling for increased temperature ranges
- Abrasive resistant ceramic coating

COMPLIANCE

Designed to meet:

- MIL-STD-810
- MIL-STD-461
- FCC Part 15 B
- CE
- RoHS
- REACH

ORDER NO.

- KLAS-TRX-D8-10X-BCM9670W-A-PS

Network-based Logging (200Gbps)...

SECURITY

- Secure Boot
- Intel Boot Guard
- Intel TXT (Trusted Execution Technology)
- Intel TME (Total Memory Encryption)
- Intel SGX (Software Guard Extensions)
- Tamper switch

SOFTWARE AND MANAGEMENT

- OpenBMC
- BIOS & Hypervisor CLI over console
- KlasOS Keel: KVM-based hypervisor
- Blackrock: IT management, automation, and monitoring

POWER

- 350w (excluding SSDs), 12VDC
- Filter and surge protection to ISO 16750-2
- Connector type: Amphenol PT02E12-4AP
- Ignition controlled

TEMPERATURE RANGE

- Operational: 0°C to 50°C
- Storage: 0°C to 70°C with supercap backup (-40°C to 85°C without)

PHYSICAL SPECIFICATIONS

- 7.4" x 10.7" x 9.0" (188 x 272 x 228mm)
- 16 lb (7.25kg), additional 1.2kg for power slice

CONSTRUCTION

- Aluminum chassis with integrated active cooling for increased temperature ranges
- Abrasive resistant ceramic coating

COMPLIANCE

Designed to meet:

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