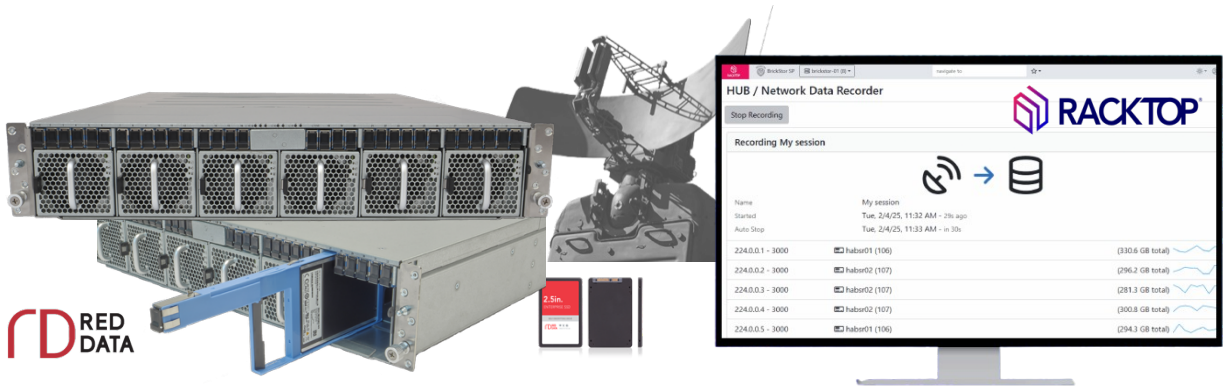
RED DATA

Uncompromising Data-at-Rest Security

Data Recorder: A CSfC-Ready High-Speed Data Recorder

RedData's Data Recorder combines the RedData high-speed storage platform with Racktop's BrickStor HDR-S software into Commercial Solutions for Classified (CSfC) ready data recorder solution. CSfC is a National Security Agency (NSA) program that lets mission owners protect classified National Security Systems (NSS) with rigorously vetted, off-the-shelf security products. Products on the NSA CSfC Components List can be combined in accordance with published Capability Packages (CPs) to meet specific mission requirements. For data-at-rest, deploying a dual encryption architecture that conforms to the CSfC Data-at-Rest Capability Package v5.0 provides assured protection for information up to and including Top Secret data.



The Data Recorder uses RedData's high-speed storage platform and provides a scalable solution for projects with high-speed data recorder requirements or secure network-attached storage (NAS) at the tactical edge. Utilizing dual layers of FIPS AES-256 encryption allows users to establish a strong and quantum-resistant security framework. Users have the flexibility to manage encryption keys either through an internal key manager or an external key manager that complies with open key management standards, ensuring adherence to enterprise-level security protocols.

Use cases for this solution include Radar Recording and Playback, Wideband RF Recording and playback, Electronic Warfare (EW) & SIGINT Capture and replay, Telecommunications & Satellite signals validation, and Cyber Mission Forces threat-hunting kits.

The RedData high-speed storage platform is a 2U Multi-Node Storage Server hardware platform that holds up to 32 hot-pluggable CSfC listed Self-Encrypting Drives. It can be setup in a High-Availability or High-Performance configuration. Each server module provides 12 DIMM slots and four x16 PCIe Gen5 slots for flexible expansion. The hardware platform comes deployed with Racktop's BrickStor HDR-S software, supporting multi-protocol RF ingest, enabling seamless integration into various environments. HDR-S allows users to capture and store wideband signals in real-time and then replay them at full fidelity whenever needed. This eliminates the need to recapture signals, enabling users to analyze, test, and validate RF environments repeatedly and consistently. With up to 800 Gb/s of network connectivity, the solution is ideal for high bandwidth ingest and playback. It allows for the aggregation of multiple systems

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to achieve Terabit speed, ensuring efficient data handling. Various NIC options provide flexibility for diverse network architectures.

This solution offers an intuitive web-based GUI and a REST API, making system configuration and monitoring straightforward for users of all skill levels. Its advanced scheduling capabilities allow for autonomous record and playback operations, enabling seamless task management without constant oversight. Comprehensive logging and auditing features ensure data integrity and compliance, providing users a reliable way to track changes and maintain accountability in their operations.

Hardware - RedData High-Speed Storage platform

- Two -server modules, each with 4th generation AMD EPYC™ CPUs and 128 Gen5 PCIe lanes per CPU.
- Supports up to 32 PCIe Gen5 dual-ported NVMe SSDs in EDSFF E3.S slots, each 25W max. per drive.
- Highest performance – each SSD interfaces via x4 lane PCIe Gen 5 links.
- 10G/1GbE Shared Host / Management Port and 1GbE Dedicated Management Port.
- Network expansion with 4x PCIe HHHL x16 Gen 5 Add-In-Cards
- Enclosure is 3.44 in. H X17.52 in. W X 30.73 in. D (87 mm H X 445 mm W X 780 mm D), weight with drives, CMA, and rail kit is 67lbs (30.4kg) max.
- Hot-pluggable servers, power supplies, fans, and drives.
- Environmental operation up to 35°C ambient inlet.
- Optional rail kit with CMA (cable management assembly).
- Optional TPM (trusted platform module).
- Power: nominal input range 200-240V AC 50-60 Hz, dual redundant 2600W, input current 15A max @180V AC per PSU, 40A peak per PSU.
- Hot-swap: two server modules, six fans, two AC to DC 2600W power modules, two independent AC power inputs, E3.S SSDs.
- Firmware: OpenBMC - IPMI and Redfish® management, CLI and GUI control for drive management & enclosure status.
- Drives: Multiple drive options, including RedData KOGIN Series Gen5 Self-Encrypting SSDs.

Partner Software - Racktop BrickStor HDR-S

- Supports two layers of data-at-rest security with AES256-bit FIPS 140 certified encryption.
- Protocols: NFS, NFS RoCE, S3, Multicast/Unicast UDP, VITA 49 over Ethernet
- Network Connectivity of up to 800 Gb/s
- Data ThroughputHigh-speed recording/playback up to line rate

Available Configurations

For more information about our configurations, please contact us at: inquiries@rpics.com.

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