BRYCK®

Activating the Data that Runs the World

Meet BRYCK®, a Portable, Universally Compatible Data Capture/Process/Movement Platform

BRYCK is a powerful, portable solution for capturing, processing, moving, and storing data in any format, from any source. Its small form factor enables customers to deploy BRYCK at typical edges, mobile edges and data centers to capture and process large data.

BRYCK® Solves Big Data Challenges

Everything depends on our ability to capture, process, protect, move, and store information at the edge, conveniently and cost-effectively. That's where BRYCK® comes in to activate the data that runs the world.

- **Single Solution:** BRYCK is a powerful, portable solution for capturing, processing, moving, and storing data in any format, from any source. A user-friendly dashboard allows users to monitor performance and usage, the standard interfaces ensure simple operation, and its rugged exterior allows for repeated use.

- **Deploy Anywhere:** Rugged small form factor enables customers to deploy BRYCK at typical edges, mobile edges and data centers to capture and process large amounts of data.

- **Fits In Your Hand:** The rugged, portable BRYCK is the smallest mass storage device on the planet. BRYCK fits in the palm of a hand and built tough to protect data against high & low temperatures, moisture, and vibration.

- **Fast I/O Architecture:** The device boasts blazing fast I/O architecture and high-speed encryption at speeds of 40 GBPS with 256-bit keys.

- **Cost Savings:** BRYCK reduces the cost of transferring data by minimizing the time and effort of physically moving storage equipment.

Technical Specification

STORAGE
- 128TB, 256TB, 512TB, 1PB
- Up to 8x storage with data de-duplication
- PCIe/NVMe
- Rugged and portable

PORTABILITY
- Physical data transport
- Waterproof & shock-resistant
- Light-weight: 14 pounds
- Small: 4" x 4" x 9.5"

DATA SECURITY
- AES 256-bit data encryption
- Tamper-resistant
- HW encryption
- Automated key management

DATA ACCESS
- NFS | SMB | BRYCKCP | SRT
- Direct attached I/O
- Fast data transfer application
- Interoperable with servers as direct attached storage
- 1-BRYCK and 2-BRYCK access per server
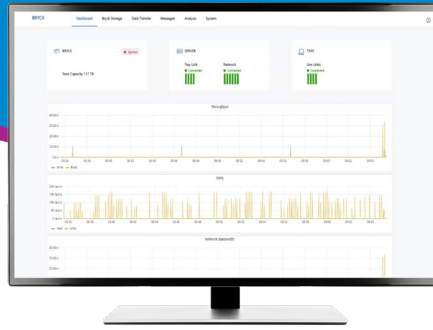
DATA PROTECTION
- Self-healing
- Auto data corruption recovery
- Data protection from hardware component failure

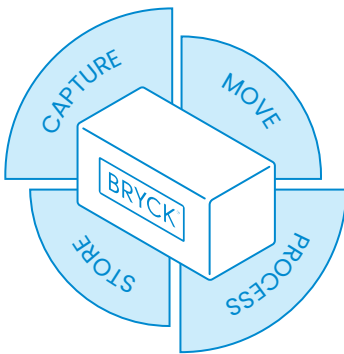### PERFORMANCE
- Up to 40 GB/sec data access throughput

MANAGEMENT
- Web
- Dashboards
- REST API for data center orchestration
- Power consumptiont: 240 - 800 W

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BRYCK® Platform

BRYCK features an advanced self-healing software platform that protects and secures data, guarantees data consistency, provides high speed data access, transparently deploys into existing infrastructure, and provides comprehensive monitoring.

BRYCK® Platform Features

- **HIGH-PERFORMANCE RUGGED AND PORTABLE STORAGE**
  Small form factor, water-resistant, shockproof, transportable, plug and play NVMe storage

- **SUPPORTED RAW BRYCK STORAGE CAPACITY**
  128 TB, 256 TB, 512 TB, 1PB

- **RUGGED TRAY SYSTEMS**
  Deployable in datacenters, static and mobile edges

- **SUPPORTED TRAY FORM FACTORS**
  One BRYCK and two BRYCK deployment capability

- **HIGH-PERFORMANCE STORAGE SERVER**
  AMD/Intel based high-performance storage server with PCIe Gen4 architecture. This is an optional deliverable. Customers can use their existing servers as a storage server.

- **PHYSICAL DATA PORTABILITY**
  Enables customers to transport data physically using common shipping methods

- **SELF-HEALING BRYCK FILE SYSTEM**
  Self-healing file system that automatically detects, corrects errors and provides end-to-end data consistency.

- **DATA STORAGE EFFICIENCY**
  Advanced data de-duplication algorithm to store up to 8x more data than the raw capacity of the BRYCK.

- **AUTOMATED ENCRYPTION KEY MANAGEMENT WITH AWS KEY MANAGEMENT SERVICE (KMS)**
  Manage the encryption keys of all BRYCKs in a deployment automatically with AWS KMS

- **HOT PLUGGABLE BRYCK**
  Insert and Remove BRYCKs without power cycling

- **ALERTS AND LOGS**
  Alert and event logging

- **DATA PROTECTION FROM HARDWARE FAILURE AND DATA CORRUPTION**
  RAID5, RAID6, Data Protection, Auto Data Corrections

- **DATA ENCRYPTION**
  Software encryption, AES 256 bit keys, data stream is encrypted and decrypted as it is written and read.

- **FAST DATA UPLOAD TO AND DOWNLOAD FROM BRYCK**
  Multi-threaded, highly parallel utility BryckCP uploads and downloads data to/from BRYCK at high speed.

- **PROTOCOL**
  Access to BRYCK data over NFS, SMB and S3

- **OPERATING SYSTEMS**
  ORACLE LINUX 7.9

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BRYCK®

Speed big data from the edge to insights with petabyte capability in your palm

BRYCK®

BRYCK is a powerful, portable solution for capturing, processing, moving, and storing data in any format, from any source. Its small form factor enables customers to deploy BRYCK at typical edges, mobile edges and data centers to capture and process large data.

The rugged, portable BRYCK is the smallest and the most dense mass storage device on the planet.

Technical Specifications

▪ HARDWARE SPECIFICATION

Capacity Variants (Raw storage density)	128TB, 256TB, 512TB, 1PB
PCIe Generation	All models Support PCIe Gen 4.0 and are 3.0 Backwards compatibility
Connector Interface	Rugged – high durability connectors capable of PCIe Gen 4.0 Signaling
Dimensions (L x D x H)	9.5" x 4.0" x 4.0"
Weight	14 lbs
Power Consumption	520 W (Max)
Tamper Proofing	Epoxy Potting to prevent intrusion and tampering
Encryption	256 Bit encryption supported
System Monitoring	**Default** – Internal module board temperature monitoring **Optional** - IPMI System monitoring Dynamic Health monitoring of the internal Flash drives

▪ ENVIRONMENTAL SPECIFICATIONS

Operating

Temperature: 0ºC to 60ºC

Humidity: 10-90% Relative Humidity

Altitude: 0-10,000 Feet Above Sea Level

Non-Operating (Storage)

Temperature: -40ºC to 70ºC

▪ DESIGNED TO CONFORM TO COMPLIANCE STANDARDS

FCC Class A

CE Safety & Emissions

UL, cUL

RoHS3

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BRYCK®

TR-4U1B

TR-4U2B

Tray

The Tray is a 4U rack-mountable and airborne-deployable rugged system. The Tray functions as an adaptor to the BRYCK that bridges the BRYCK and the storage server over high-throughput connectivity. The Tray features a simple latch mechanism for easy insertion/removal of the BRYCK, ensuring that the BRYCK is operational in high vibration environments. The Tray connects to the storage server over two direct-attached high-speed PCIe 4.0 x16 cables.

Technical Specification

■ HARDWARE SPECIFICATION

Model	TR-4U1B	TR-4U2B
BRYCK Mounting Capacity & Support	1x BRYCK 1x BRYCK back plane	2x BRYCK 2x BRYCK back planes
PCIe Generation	PCIe Gen 4.0 PCIe Gen 3.0 (Backward compatbility)	PCIe Gen 4.0 PCIe Gen 3.0 (Backward compatbility)
Connectivity/Ports	8x SFF-8654 1x RJ45 1GbE (IPMI Management)	8x SFF-8654 1x RJ45 1GbE (IPMI Management)
Form Factor	4U Rack Mountable	4U Rack Mountable
Dimensions (W x H x D)	10.7" x 7.0" x 18.5"	17.2" x 7.0" x 18.5"
Weight	Empty - 25 lbs With BRYCK - 39 lbs	Empty - 38 lbs With Single BRYCK - 52 lbs With Dual BRYCK - 66 lbs
Power Options	2x PSU @ 1600W (Dual Redundancy CRPS Formfactor)	2x PSU @ 2600W (Dual Redundancy CRPS Formfactor)
System Monitoring	**Default** – Automatic/dynamic temperature-based fan speed control **Optional** - IPMI System monitoring	**Default** – Automatic/dynamic temperature-based fan speed control **Optional** - IPMI System monitoring
Cooling	Redundant fans	Redundant fans
Fan Filters	Optional Quadra-foam 45 PPI Replaceable Fan Filters	Optional Quadra-foam 45 PPI Replaceable Fan Filters

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