COMMON DATA LOADER (CDL)

Network attached storage

The L3Harris CDL is a ruggedized storage system designed for use in military and commercial aviation applications. The line replaceable unit (LRU) is a network attached storage (NAS) device providing high speed file-based data storage services to other devices on the network with an optimized size, weight, power and cooling (SWaP-C) configuration.

The CDL consists of hardware, embedded software and three ruggedized solid-state removable memory modules (RMMs). The unit provides 100 megabytes per second sustained read/write performance. It's capable of simultaneously sending, receiving and storing digital data from two independent 10/100/1000 Base-T interfaces.

Controlled and configured over the network, the CDL uses standard file-based open source protocols including network file system (NFS), file transfer protocol (FTP) and real time streaming protocol (RTP / RTSP).

L3Harris currently provides RMMs with a capacity of 128 gigabytes. All RMMs use single-level cell (SLC) storage technology to provide the improved longevity and data retention. The RMMs are water immersion resistant for up to 30 minutes.

The CDL provides this capability in an optimized, light-weight package measuring approximately 5 x 2 x 8 inches and weighing 5.1 pounds (including 3 RMMs). It operates on 28 volts DC and uses 29 watts of power.

BENEFITS

> Three separate solid-state removable cartridges allow for independent storage functionality

> Small footprint for SWaP-constrained platforms

> Mature design at TRL 9 reduces implementation risk

> Optional encrypted version protects up to top secret data at rest (DAR)

> Exportable under Export Administration Regulations (EAR) for acquisition through direct commercial sales (DCS)

GENERAL

> Total capacity: 384 GB

> Throughput: 100 MB/s read/write, sustained aggregate

REMOVABLE MEMORY MODULES

> Three solid state RMMs

> Capacity: currently 128 GB per RMM

> 30 minute water immersion

> 7500 insertion/removal cycles

INTERFACES

> Two independent 10/100/1000 Base-T ethernet

> Two RS-232 (1 maintenance, 1 debug)

> Six discrete inputs: one zeroize, two 28 Vdc and three 5 Vdc

SOFTWARE

> Operating system: Linux

> File system: FAT32, EXT4 (optional), NTFS (optional)

> Media server: Live555

> Protocols: IPv4/IPv6, NFS v3 over both UDP and TCP, FTP, TFTP, Telnet, HTTP, AoE, SAMBA, RTP, RTSP

> Streaming protocols: MPEG2 and H.264

PHYSICAL

> Dimensions: 4.96"W x 2.53"H x 7.98"D not including connectors or mounting plate

> Weight: 5.1 lbs including three RMMs

> Power: 29 W (typ), 37 W (max)

> Mounting: Dzus front, daggers rear

POWER

> Power input: 28 VDC per MIL-STD-704E holdup > 125 ms

RELIABILITY

> MTBF: > 21,000 hours (aircraft retained unit), > 55,000 hours (cartridges)

ENVIRONMENTS

> Operating temperature: -40C to +71C continuous

> Storage temperature: -55C to +85C continuous

> Altitude: 0 to 20,000 feet

> EMIC: CE101, CE102, CS101, CS114 - CS116, RE101, RE102, RS101, RS103

SECURITY

> Optional: NSA approved 256 bit AES Commercial Solutions for Classified (CSfC)

FEATURES

> Network attached storage

> File server

> Video cap storage and retrieval

> Instrumentation recorder

> Data loader

> Optional: USB and eSATA cables available pre- and post-mission

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