

LNB FEDERAL BELLEROPHON

FLIGHT TEST DATA PLATFORM

One validated, searchable flight library for test teams, on servers the Government controls.

CAPABILITY STATEMENT

THE MISSION NEED

Flight test programs record every sortie in the IRIG 106 Chapter 10 format. Turning those recordings into engineering data often depends on one-off scripts and a few specialists, so results arrive late, each flight is analyzed in isolation, and limit exceedances or data problems can be missed.

WHAT BELLEROPHON DELIVERS

- **Faster answers after every flight.** Recordings are decoded on the server into engineering units and shared with the whole test team in one library, without custom scripts.
- **Nothing missed.** Limit exceedances and data quality problems are found automatically on every recording, not only on the flights someone reviews, and test points are evaluated against every recorded sample.
- **Every flight searchable, reports in one click.** Engineers search the whole library for a test condition, compare sorties side by side and print post-flight reports to PDF.
- **Data stays inside the enclave.** Installs on Government-controlled servers, including closed and air-gapped networks, with no outbound connections.
- **Ready for authorization.** Smart card (CAC/PIV) sign-in, role-based access, an audit log, a FIPS mode, and a security approval package with a NIST SP 800-53 Revision 5 control mapping.
- **Analysts keep their tools.** A read-only data access interface and a Python client deliver time series as CSV or MATLAB files, and as HDF5 or Parquet files with standard Python packages.

TECHNICAL CAPABILITIES

- **Data types:** MIL-STD-1553, PCM (packed, unpacked and throughput modes), ARINC 429, discretes, analog and Ethernet (IENA and iNET-X in UDP), on one IRIG time axis at the full recorded rate.
- **Setup:** parameter dictionaries imported from the recording's TMATS record or from CSV; derived parameters such as Mach number written as expressions.
- **Scale:** streaming ingest with flat memory use; recordings up to 100 GB by default.

DIFFERENTIATORS

- **Purpose-built for flight test.** Reads IRIG 106 Chapter 10 natively; no custom decoding scripts to maintain.
- **Small software supply chain.** No third-party software packages, with a software bill of materials in every release.
- **No license server.** A signed license file is verified offline, with no usage reporting; data stays readable after a license ends.

ACQUISITION

- **Commercial software product,** licensed by users, servers and term; every capability is included in every license.
- **Low-risk start:** a free evaluation, then a 90-day pilot on your own recordings.
- **Updates and support** included for the license term.
- **Secure delivery** through a customer-approved file transfer.

PROVEN RESULTS

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INDEPENDENT READER
CHECKS

57 MB/s

CHAPTER 10
PROCESSING

379 MB

PEAK MEMORY, 2.6 GB
FILE

Air-Gapped

NETWORK READY

Reader results compared against two independent open-source readers, pychapter10 and irig106lib. Validation on each program's own data is part of every deployment.

COMPANY DATA

LEGAL NAME

LNB Federal Corporation

BUSINESS SIZE

Small business

CAGE

12WN4

NAICS

513210 Software Publishers

541512 Computer Systems Design Services

REGISTRATION

Active in SAM.gov

CONTRACTING ROLE

Prime

UEI

NG4XZH3GUA48

DEPLOYMENT

Linux (recommended), Windows Server or macOS, four CPU cores and 8 GB of memory for most programs. Installs as a hardened service behind the customer's reverse proxy, or as a container image. Installation needs no internet access; Node.js 22 is the only prerequisite.

POINT OF CONTACT

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EVALUATION

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