



Full-Function Telemetry Acquisition and Processing

- **New Paradigm for Technology Implementation and Refresh** — Deploy new solutions and perform technology refresh in a fraction of the time and with lower cost.
- **Automated Mission Definitions** — Create and save mission configurations that fully define the telemetry processing configuration. Reconfigure entire system for the next mission in seconds.
- **Commodity Servers** — inSIGHT Telemetry is hosted on high-performance, high-availability servers. These low-cost servers reduce deployment, system maintenance, and sparing costs and logistics.
- **EU Conversion and Calculated Parameters** — Real-time EU conversion and calculated parameters are stored in the inSIGHT data analytics and visualization database.
- **Import Existing Telemetry Format Definitions** — Conversion of existing telemetry format definitions from spreadsheets, XML, JSON, and other standard formats are available upon request.
- **Edge Devices** — inSIGHT Telemetry supports a range of physical interface and protocols such as analog, serial, and TMoIP to receive and transmit data streams. Non-standard and custom interfaces upon request.
- **Low Latency** — Due to the processing speed of the high-performance multi-core services, processing latency is comparable to hardware and firmware-based solutions.
- **Virtualization and Distribution** — Support for virtualized and distributed computing. Many inSIGHT Telemetry Applications can run on cloud computing architectures.
- **Secure Operating System** — The Red Hat Enterprise Linux Operating System provides superior security over Windows based systems. Information Assurance (IA) hardening is available.
- **Self-Generating System Documentation** — Design and interface documents are rendered on system start-up. Know the exact configuration in place for the current mission. Visually see what is running and the associated status.

Physical Interfaces

- Analog
- Digital
- Ethernet
- RS-530
- RJ-45
- BNC
- Triax
- DB Connectors

Protocols

- PCM and PCM/FM
- TTL/RS-422
- UDP & UDP Multicast
- TCP
- TMoIP
- Ch10

Bit Synchronizer

- Support for PCM Formats
- Data Rates up to 25 Mbps
(Tunable for Faster Data Rates)
- Viterbi and Convolutional Decoder

Best Source Selector

- Uses Frame Sync Statistics
- Virtually Unlimited Sources
- Manual, Automatic, or Mission Timeline
- CRC and Other Data Quality Checks

IRIG 106 Chapter 10 PCM Recording

- PCM Packed, Unpacked, and Throughput
- ASCII TMATS Format
- Store and Replay Raw or Post Detection Data Streams
- Standalone or Integrated with Solution
- Integrated with inSIGHT Data Analytics
- IRIG-B Time Stamping
- Built in BERT

Frame Synchronizer

- Programmable Sync Strategy
- Data Rates up to 1 Gbps
- Error Detection / Correction

Decommulation

- Word, Byte, or Bit Level
- Support for Embedded Frames
- Raw, EU, Derived Parameters
- Async Embedded Streams

Parameter Archive

- EU Converted Measurands
- Archived with msec Time Accuracy
- Derived Parameters
- Raw

Data Display

- Current Value Display
- 10 Hz Real-Time Update Rate
- Alerts
- Bar Graphs
- Trend Lines
- Strip-Chart
- Zoom-in / Zoom-out

Data Analytics/Visualization

- Displayable Real-Time or Post Mission Analysis
- Full Complement of Data Display Widgets
- Rapid Analysis of Historical or Correlated Data

Telemetry Simulation

- File Replay from RF/IF Recordings or Chapter 10 Recordings
- Generated Telemetry Streams
- Digital, Baseband or RF Outputs
- Parameter Editing (Recordings or During Playback)
- System Test/Verification and Personnel Training