

COMTRADE Adapter

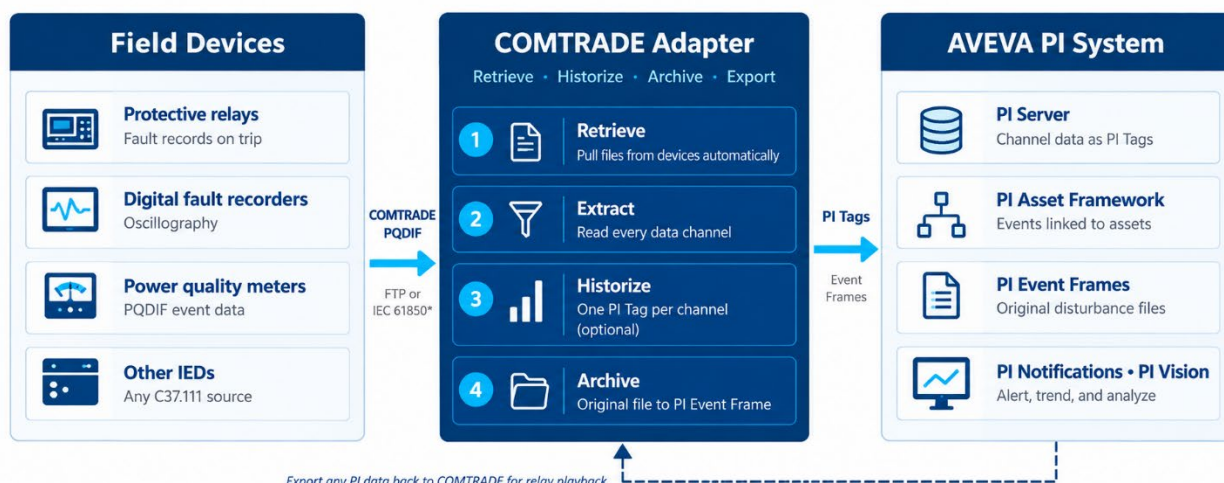
Disturbance Records, Historized in AVEVA PI™

Every fault your IEDs capture produces a disturbance record. Most of those records never reach the historian. They stay on relays and recorders, retrieved by hand, stored in folders with no consistent structure, and disconnected from the process data your teams already analyze in PI.

COMTRADE Adapter closes that gap. It retrieves **IEEE C37.111 COMTRADE** and **PQDIF** files from IEDs and disturbance recorders, historizes each data channel as a **PI Tag** in **AVEVA PI Server**, and archives the original file in a **PI Event Frame**. Fault analysis becomes part of your normal PI workflow, not a separate offline exercise. Built for **protection engineers, PI System teams, and grid reliability and operations analysts**.

Why It Matters

- **One view of every fault.** Disturbance data sits alongside SCADA, asset, and process data in PI, so teams analyze events with the AVEVA tools they already use.
- **No more chasing files.** Automated retrieval over FTP or IEC 61850 replaces manual downloads from each device.
- **Audit-ready records.** A full audit trail captures when each file was generated, retrieved, and archived, supporting regulatory requirements such as NERC PRC-002 and post-event forensics.
- **Faster response.** PI Notifications can trigger file retrieval and alert engineers as soon as new disturbance data arrives.
- **Original data preserved.** The source file stays in PI, so any event can be reproduced exactly as the device recorded it.



COMTRADE Adapter moves disturbance records from field devices into the AVEVA PI System, and back out as COMTRADE on demand.

Four Functions, One Workflow

Retrieve	Historize	Archive	Export
<ul style="list-style-type: none">• FTP or IEC 61850 file transfer from IEDs and recorders• Interactive, scheduled, or programmatic invocation• PI Notifications example included to trigger retrieval and processing	<ul style="list-style-type: none">• Each data channel stored as an individual PI Tag• Optional automatic PI Tag creation; no manual tag setup• Events linked to power system assets in PI AF	<ul style="list-style-type: none">• Complete original file stored in a PI Event Frame• Raw files retrievable for post-event analysis• Audit trail: generated, retrieved, and archived times	<ul style="list-style-type: none">• Any PI data exported to a COMTRADE file• Works even for data not imported via COMTRADE• Supports relay playback and protection tool exchange

Built for the Teams Who Own Fault Data

- **Protection engineers.** Pull fault records from every relay and recorder without a site visit or manual download, and review them in context.
- **PI System teams.** Extend the historian you already run to disturbance data, using standard PI Tags, PI AF, and Event Frames. No separate database to maintain.
- **Grid reliability and operations analysts.** Correlate fault events with load, SCADA, and asset data in PI Vision to find root causes faster.

Specifications

Item	Specification
File formats	IEEE C37.111 COMTRADE and IEEE 1159.3 PQDIF; all existing file format versions
File retrieval	FTP; IEC 61850 file transfer (requires AX-S4 61850, available separately)
Invocation	Interactive, scheduled, or programmatic; PI Notifications trigger example included
AVEVA PI integration	PI Server, PI Asset Framework (AF), PI Event Frames, PI Notifications
Analysis tools	PI Vision and other AVEVA PI System client tools
Tag management	Optional automatic PI Tag creation from disturbance file contents
Export	Any PI archive data to COMTRADE format, including data not imported via COMTRADE
Audit trail	File generation, retrieval, and archive times recorded for each record
Operating system	Any currently supported Microsoft Windows operating system

Next Step

Request a technical walkthrough scoped to your PI System and protection device fleet.

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